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SEQUENCE LISTING

<110>   Amler, Lukas C.
        Januario, Thomas

<120>   BIOMARKERS AND METHODS FOR DETERMINING SENSITIVITY TO EPIDERMAL
        GROWTH FACTOR RECEPTOR MODULATORS

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<150>   US 60/438,735
<151>   2003-01-08

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<170>   PatentIn version 3.2

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ttgtctgtcc tggacctggt cgtggccttg ctccgtgtg ctgacgaagc tgccatcagt   1860

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122/439

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148/439

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tctcgcgcaa gagtgacaca caggtgttca aagacgcttc tggggagtga gggaagcggt    180

ttacgagtga cttggctgga gcctcagggg cgggcactgg cacggaacac accctgaggc    240

cagccctggc tgcccaggcg gagctgcctc ttctcccgcg ggttggtgga cccgctcagt    300

acggagttgg ggaagctctt tcacttcgga ggattgctca acaaccatgc tgggcatctg    360
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gaccctccta cctctggttc ttacgtctgt tgctagatta tcgtccaaaa gtgttaatgc    420

ccaagtgact gacatcaact ccaagggatt ggaattgagg aagactgtta ctacagttga    480

gactcagaac ttggaaggcc tgcatcatga tggccaattc tgccataagc cctgtcctcc    540

aggtgaaagg aaagctaggg actgcacagt caatggggat gaaccagact gcgtgccctg    600

ccaagaaggg aaggagtaca cagacaaagc ccatttttct tccaaatgca gaagatgtag    660

attgtgtgat gaaggacatg gcttagaagt ggaaataaac tgcacccgga cccagaatac    720

caagtgcaga tgtaaaccaa actttttttg taactctact gtatgtgaac actgtgaccc    780

ttgcaccaaa tgtgaacatg gaatcatcaa ggaatgcaca ctcaccagca acaccaagtg    840

caaagaggaa ggatccagat ctaacttggg gtggctttgt cttcttcttt gccaattcc    900

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taaaggcttt gttcgaaaga atggtgtcaa tgaagccaaa atagatgaga tcaagaatga   1140

caatgtccaa gacacagcag aacagaaagt tcaactgctt cgtaattggc atcaacttca   1200

tggaaagaaa gaagcgtatg acacattgat taaagatctc aaaaaagcca atctttgtac   1260

tcttgcagag aaaattcaga ctatcatcct caaggacatt actagtgact cagaaaattc   1320

aaacttcaga aatgaaatcc aaagcttggt ctagagtgaa aaacaacaaa ttcagttctg   1380

agtatatgca attagtgttt gaaaagattc ttaatagctg gctgtaaata ctgcttggtt   1440

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gattaagatt atgctctggc atctaacata tgattctgta gtatgaatgt aatcagtgta   1680

tgttagtaca aatgtctatc cacaggctaa ccccactcta tgaatcaata gaagaagcta   1740

tgaccttttg ctgaaatatc agttactgaa caggcaggcc actttgcctc taaattacct   1800

ctgataattc tagagatttt accatatttc taaactttgt ttataactct gagaagatca   1860

tatttatgta aagtatatgt atttgagtgc agaatttaaa taaggctcta cctcaaagac   1920

ctttgcacag tttattggtg tcatattata caatatttca attgtgaatt cacatagaaa   1980

acattaaatt ataatgtttg actattatat atgtgtatgc attttactgg ctcaaaacta   2040

cctacttctt tctcaggcat caaaagcatt ttgagcagga gagtattact agagctttgc   2100

cacctctcca tttttgcctt ggtgctcatc ttaatggcct aatgcacccc caaacatgga   2160
```

164/439

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catgtttgca atcaaagatg ataaaataga ttcttatttt tcccccaccc ccgaaaatgt   2340

tcaataatgt cccatgtaaa acctgctaca aatggcagct tatacatagc aatggtaaaa   2400

tcatcatctg gatttaggaa ttgctcttgt catacccccca agtttctaag atttaagatt   2460

ctccttacta ctatcctacg tttaaatatc tttgaaagtt tgtattaaat gtgaattta   2520

agaaataata tttatatttc tgtaaatgta aactgtgaag atagttataa actgaagcag   2580

atacctggaa ccacctaaag aacttccatt tatggaggat ttttttgccc cttgtgtttg   2640

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<210> 58
<211> 2553
<212> DNA
<213> Human

<400> 58

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aaagaaacct tacacatgta atgaatgtgg caaggttttt agtagaaaag cacaccttgc    180

atgtcatcat agacttcata ctgtctaagg tttctaatca acaatcaaac cttgcacaac    240

atcagagagt ttatactgga gagaaacctt acaagtgtaa tgagtggggc aaagccttaa    300

gtgggaagtc gtcacttttt tatcatcaag caatccatgg tgtagggaaa ctttgcaaat    360

gtaatgattg tcacaaagtc ttcagtaatg ctacaaccat tgcaaatcac tggagaatcc    420

ataatgaaga cagatcttac aagtgtaata aatgtggtaa aattttcaga catcgatcat    480

atcttgcagt ttatcagcga actcatactg gagagaaacc ttacaaatat catgactgtg    540

gcaaggtctt cagtcaagct tcatcctatg caaaacatag gagaattcat acaggagaga    600

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atcagagaat ccatactgga cagaaatctt acaaatgtct taagtgtggc aaggtcttca    720

gtctgtgggc actccatgca gaacatcaga aaattcattt ttgagataac tgttccaaat    780

acagtgacta tagaagatca taaagcttta attgacatta gagccaaata ggcattgact    840

tgagattgag ttgacttaac cttgagtttta agaattaatt tacattaaag tgtttatgtt    900

aagaagattg ggccaggtgg gattacaggc gcgagcaccg cgcccggccc ctaagttaat    960
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<210> 59
<211> 452
<212> DNA

<210> Human

<400> 59

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gcgatcacca ccacgaccca gacgggaacg aggccgccta tctcatagac accataggtc   180

cccgactgca gggtcaggac cacaaccagg gggctgataa ccagatgcag acagttgagg   240

ggccgtttcc agttctggtc atccttgtcc gggtccacga cggggactgt gaggagcagc   300

aggaactcca caggcagctt gaacaccttg agggctttcc agtatgctga tttccttctc   360

cacttcatgt aatccagggg attgagggcc cggaccagga tctgagccgt ggtctcctgg   420

tagaagaaca gcggccggta ctcatcaccg ta                                 452
```

<210> 60
<211> 1130
<212> DNA
<213> Human

<400> 60

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aagaagcgct agtaaggtct ctgagatcct tgcactagct acatcctcag ggtaggagga   120

agatggcttc cagaagcatg cggctgctcc tattgctgag ctgcctggcc aaaacaggag   180

tcctgggtga tatcatcatg agacccagct gtgctcctgg atggttttac cacaagtcca   240

attgctatgg ttacttcagg aagctgagga actggtctga tgccgagctc gagtgtcagt   300

cttacggaaa cggagcccac ctggcatcta tcctgagttt aaaggaagcc agcaccatag   360

cagagtacat aagtggctat cagagaagcc agccgatatg gattggcctg cacgacccac   420

agaagaggca gcagtggcag tggattgatg gggccatgta tctgtacaga tcctggtctg   480

gcaagtccat gggtgggaac aagcactgtg ctgagatgag ctccaataac aacttttaa    540

cttggagcag caacgaatgc aacaagcgcc aacacttcct gtgcaagtac cgaccataga   600

gcaagaatca agattctgct aactcctgca cagccccgtc ctcttccttt ctgctagcct   660

ggctaaatct gctcattatt tcagagggga aacctagcaa actaagagtg ataagggccc   720

tactacactg gctttttag gcttagagac agaaacttta gcattggccc agtagtggct   780

tctagctcta aatgtttgcc ccgccatccc tttccacagt atccttcttc cctcctcccc   840

tgtctctggc tgtctcgagc agtctagaag agtgcatctc cagcctatga aacagctggg   900

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tagaccccctt cagcttctac acccttctgc cctctctcca ttgcctgcac cccacccag   1020
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ccactcaact cctgcttgtt tttcctttgg ccataggaag gtttaccagt agaatccttg    1080

ctaggttgat gtgggccata cattcctta ataaaccatt gtgtacataa              1130
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<210>   61
<211>   3323
<212>   DNA
<213>   Human
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<400>   61
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acacttggag gcaattaatg agtatatctt agtcaaaaga attgttggag ctttttatta    120

aagctgcagt ttcagttctg cttttgggga attgtgctat gaaagcagct gccaaaataa    180

gctcatttat tttcttcaat cccactcagt gctcagtcac tatattctgt ttcctttttt    240

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aacagtgttt gttcactttc aaagagtgat agtttctaaa acatttagag caataaatat    360

tcatcagagg taccaagtaa gccagcagaa gagttaaggg ttagagaaat cccttatttc    420

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ggatatgcaa aaacttcagt tatacgtagt aatgctagca ggtaatttta gtggacattt    540

tataacaact gtcactttgt tttgccacat gtagagtttg ttcagctatt ttccagatat    600

ctccccacaa aaggaggcaa agggtaccag cttttcaatg agcattacct attacttggc    660

aaagatgatg aagactctat taatagttca tttgataaat gttgacataa ccaacaatag    720

agattaggaa gttagtttta agaaatcaat agcatataga cattaccctc atggagtttg    780

tattctacta cttgaactga ttgtagctat aaaagcatag ttagatagct gaatagttag    840

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aatgtgtgga aagagataaa ttttttatca ttaccacaaa ccccttttaa agattcaaag    1380

gtggaagaaa gtgatttatt ttttctcttc agcatacata tataaagac ttgtcagatg     1440
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aaggcatgaa atcagtctta aaaattgaaa tgggggtgat gggggagaaa aagaagaaca  1620

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acaaaacata tttttgtgtt atccaaagga gcttttttcct tattctgtca agcattgaga  2040

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ggaaattggt tgactattag tttttaacta aaatgtgcaa taacacattg cagtttcctc  2460

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tgcctcaatt tgtacttcat caataagttt ttgaagagtg cagattttta gtcaggtctt  2580

aaaaataaac tcacaaatct ggatgcattt ctaaattctg caaatgtttc ctggggtgac  2640

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tatcgtaggt aaaggaaact acctcatgct ctgaaggttt tgtagaagca caattaaaca  3120

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gagagggcat ggaataattg tattttgctg gcaatagaca cattctttat tatttgcaga    3240

ttcctcatca aatctgtaat tatgcacagt ttctgttatc aataaaacaa aagaatcctg    3300

ttaaaaaaaa aaaaaaaaaa aaa                                            3323
```

<210> 62
<211> 737
<212> DNA
<213> Human

<400> 62
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<210> 63
<211> 3780
<212> DNA
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<400> 63
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```

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acgagaatga aaaccttcag gagaaggaag ggggagaggc ggaagagagt gccacagaca    960

cgaccagtga aactaacaag agatttagct cattgtcata caagtctcgg gaagaagacc   1020

ccactctcac agaagaagag atctcagcta tgtactcatc agtaaataaa cctggacagt   1080

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attcctgtgg ttcatcccaa ggaaattttc acacaaagct ggcctttgc cctcaatata   1920

ggtgttttag gatggtgaca aaccatggct gctgctttct gcccagctcg ccagtcctcc   1980

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gacgtccctg gagtctcttc tgtctttgtt ccttcttatt ttggcattcg atatcagcag   2100

cctctcccca aagtacttga agtcagtttt agatgcttta ttttattttt ctagtcaaaa   2160
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ccatagatat ttaaaaatct atatttgtat ttatttataa tatagatata ggccctcaag     240

gattcataga gatttatgta ataaactaga ttttggtact atttattttg ttgttgttgt     300

tgcttgttag gtaagcaaac ccaaacaaat taagtcctga aaagtgggat gaaatcccaa     360

aggaactcta tgagaccaca cagaactctt ttaataaata tggcccatac aaattccata     420

tccagtgaaa atcattttga tccacaatca tgttgatgtt tctatggagg atacttctag     480

cagctgtgat ttcttttgta gcattctggc tctccacttc tattcatata attgagtatg     540

tgttttatta catgttagct tataggcaag ttaaacat                             578
```

```
<210>   72
<211>   475
<212>   DNA
<213>   Human


<220>
<221>   misc_feature
<222>   (285)..(285)
```

```
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (361)..(361)
<223>  n is a, c, g, or t

<400>  72
gggtttgcac agtttattaa gataatcaat caatttctta agttattcct ttgttaacca      60

gacagcatct ctggagagaa aatgcactct ctgtgtagat acataaaaat acatcagtca     120

ttttgcccct cctggatgtg aacggaatct cccctcctca cctccacaga gggagctcaa     180

gccccaggga accttcccct ccccttttat gcattaccag gggagtggca ggggcagccc     240

ccaactgtgg agtgcattca ggtctgaggg gggaggaagg ctcanagggg catctcccca     300

gcaccctgcc acagtgctgg cttctggggt gtttgttcag cggcctgctg ggctgcccca     360

ngctggggc tcccccagct ccccgtgcat cctggcttgt tccacggagc cctgagccaa      420

gtctttgtct ggctcatgtt cctctcacaa catcccacag gcaggggtga gcctg          475


<210>  73
<211>  512
<212>  DNA
<213>  Human

<400>  73
catgtaaaac tgacttttat tacaattaaa aaagaacaaa gacaatttga taagtgcctt      60

taattacaac atacctgcta tttacatgta atcatacttt tatatatagc ttgaataagt     120

tttattacat gtaaactata agatattaca agttaaactc cagtcttttc tggatattca     180

attgaaatac tactggcaga aacatacaga aaacaaatac ccatttcagt tcctcaggta     240

ccattactgg ttgaatgatc aagatctggc cacagaagag aagtggaaat atgcatcaaa     300

acaaaactta ttcttaacat gactaacagt attgttattt aaaccctaaa cataattaat     360

aattggatca ttaaaaacac atcttcaatt tatatagcac ctttcttccg aagagttgaa     420

agcattcgtg cttatctcta ttatttcgtt tgtccccata acatctctat gaggtaggca     480

atggttagta tcattatccc cattttgtat at                                   512


<210>  74
<211>  668
<212>  DNA
<213>  Human

<400>  74
tttcaaaacc agcaaaaatt aaatttaatt gggctcaagt ctgggcagtt tgtccttcct      60

caggaccagc cgtcagcagt ccctgacgaa agcaccccat tctctccaca gacagctggt     120
```

```
tccaaaagga  ccctctgagg  ctggtcttcc  gggtaggatg  tgctgtggga  gggttctgtt      180

tccgaggagg  agaggcgcga  cacagcgtgc  aaggacctgc  agcaccttcc  acgcagcacc      240

ccctgctcct  cctcctcagc  ccctgccggg  ctctgactcc  taaagtaagg  caggagcttc      300

ttcaggcccc  tggctgagga  agagccacag  ccaccctaaa  atggcttcgg  gggcatgcag      360

ccctccatct  ccagcagctc  tggccatccc  tcgtatttgt  tggtgtctgg  gctgttcttt      420

aagaactgct  caaaggggct  gttacccctg  aggtctttgg  ctcctatgaa  gacccagctg      480

tcccggaagc  ccagttgttt  tgcgtaggaa  ctccccaagt  cagagaagag  tttcctgctt      540

tcatcgatca  ttttggtcgc  tggatcgtcg  taggaggcca  ccaacaccag  tgcaccccgc      600

ggaaatatct  tatggaattt  cactaggtgc  ataacttctc  ctaagtgcat  gtcaaatgcc      660

tgctggcg                                                                    668
```

```
<210>   75
<211>   568
<212>   DNA
<213>   Human

<400>   75
aaggaataag  gtgaattttt  attaagtgaa  aaaatcaat  aacaatatag  gaatgatcac       60

atctatacaa  atacattgct  acatttctac  atataaaatg  tataggaaaa  agtctgaaag      120

aatgcacacc  aaattattct  gtttttagga  aaagcagtag  gattggtcag  ggcatggaat      180

gtcggctaag  tgaagtgaga  tttaaaattt  ttattctaca  tgattttcta  gtgttgggaa      240

tttttgacag  tgagcataca  tgcacttatt  acttgcataa  ttctgaaaac  tattttaaaa      300

acaacagaga  atatatgaaa  gtctattggt  gtatacagca  ttaatagtag  tgaaagttta      360

acagaaaaga  tctgaaaatc  tcccaaagtt  atatagaaac  agatctagct  gacacactgt      420

gtacctagaa  atgattttgg  atctcttcac  agagacccct  atcccaccaa  cctccaatcc      480

tcccaccata  cattgatccc  tttctatctg  cttggatcat  tagctgtaaa  tttaacttcg      540

aaaaacaaag  tacgtttaat  cattgtac                                           568
```

```
<210>   76
<211>   491
<212>   DNA
<213>   Human


<220>
<221>   misc_feature
<222>   (371)..(371)
<223>   n is a, c, g, or t
```

<220>
<221> misc_feature
<222> (394)..(394)
<223> n is a, c, g, or t

<400> 76
ttagattgaa gaaaacataa cgtttaattc tcagaaacaa atgcaagcct cggtccaagt   60

cttccttccc aaacctttgt catttaggga ttgagaagct gagttgggtg aaaggttgaa   120

tagaaaacaa aaaggaaagc tagaaacacg ctgagctcat ggagatgcag cttcttctgt   180

agctcctaaa ggcccagctg aggtatcatc taatgagaat tctctctatg ccaggcactg   240

cgctaagatt ttcacatcat taaccaatgt gagttttagg caaccccgaa gcaggcagtc   300

tgttcatccc aattgcagct gaggaaacag gggtgaggtg aggccaagca gctgggccca   360

agggtcccct ncctgggtaa gtgggcacag ctgncagccc tgccagggtg gggtcctgct   420

aaccaagccg gcgttttctt gtcaccatgc cgtattcgcc ttcccgtact atcaaaatgt   480

acttatccaa t   491

<210> 77
<211> 2437
<212> DNA
<213> Human

<400> 77
tcggatccac tagtaacggc cgccagtgtg ctggaattcg cggccggtcg acccaccacc   60

atgaggtcct gcctgtggag atgcaggcac ctgagccaag cgtccagtg tccttgctt   120

ctggctgtcc tggtcttctt tctcttcgcc ttgccctctt ttattaagga gcctcaaaca   180

aagccttcca ggcatcaacg cacagagaac attaaagaaa ggtctctaca gtccctggca   240

aagcctaagt cccaggcacc cacaagggca aggaggacaa ccatctatgc agagccagtg   300

ccagagaaca atgccctcaa cacacaaacc cagcccaagg cccacaccac cggagacaga   360

ggaaaggagg ccaaccaggc accgccggag gagcaggaca aggtgcccca cacagcacag   420

agggcagcat ggaagagccc agaaaaagag aaaaccatgg tgaacacact gtcacccaga   480

gggcaagatg cagggatggc ctctggcagg acagaggcac aatcatggaa gagccaggac   540

acaaagacga cccaaggaaa tggggggccag accaggaagc tgacggcctc caggacggtg   600

tcagagaagc accagggcaa agcggcaacc acagccaaga cgctcattcc caaaagtcag   660

cacagaatgc tggctcccac aggagcagtg tcaacaagga cgagacagaa aggagtgacc   720

acagcagtca tcccacctaa ggagaagaaa cctcaggcca ccccaccccc tgcccctttc   780

cagagcccca cgacgcagag aaaccaaaga ctgaaggccg ccaacttcaa atctgagcct   840

```
cggtgggatt ttgaggaaaa atacagcttc gaaataggag gccttcagac gacttgccct   900

gactctgtga agatcaaagc ctccaagtcg ctgtggctcc agaaactctt tctgcccaac   960

ctcactctct tcctggactc cagacacttc aaccagagtg agtgggaccg cctggaacac   1020

tttgcaccac cctttggctt catggagctc aactactcct tggtgcagaa ggtcgtgaca   1080

cgcttccctc cagtgcccca gcagcagctg ctcctggcca gcctccccgc tgggagcctc   1140

cggtgcatca cctgtgccgt ggtgggcaac gggggcatcc tgaacaactc ccacatgggc   1200

caggagatag acagtcacga ctacgtgttc cgattgagcg gagctctcat taaaggctac   1260

gaacaggatg tggggactcg gacatccttc tacggcttta ccgccttctc cctgacccag   1320

tcactcctta tattgggcaa tcggggtttc aagaacgtgc ctcttgggaa ggacgtccgc   1380

tacttgcact tcctggaagg cacccgggac tatgagtggc tggaagcact gcttatgaat   1440

cagacggtga tgtcaaaaaa ccttttctgg ttcaggcaca gaccccagga agcttttcgg   1500

gaagccctgc acatggacag gtacctgttg ctgcacccag actttctccg atacatgaag   1560

aacaggtttc tgaggtctaa gaccctggat ggtgcccact ggaggatata ccgccccacc   1620

actggggccc tcctgctgct cactgccctt cagctctgtg accaggtgag tgcttatggc   1680

ttcatcactg agggccatga gcgcttttct gatcactact atgatacatc atggaagcgg   1740

ctgatctttt acataaacca tgacttcaag ctggagagag aagtctggaa gcggctacac   1800

gatgaaggga taatccggct gtaccagcgt cctggtcccg gaactgccaa agccaagaac   1860

tgaccggggc cagggctgcc atggtctcct tgcctgctcc aaggcacagg atacagtggg   1920

aatcttgaga ctctttggcc atttcccatg gctcagacta agctccaagc ccttcaggag   1980

ttccaaggga cacttgaac catggacaag actctctcaa gatggcaaat ggctaattga   2040

ggttctgaag ttcttcagta cattgctgta ggtcctgagg ccagggattt ttaattaaat   2100

ggggtgatgg gtggccaata ccacaattcc tgctgaaaaa cactcttcca gtccaaaagc   2160

ttcttgatac agaaaaaga gcctggattt acagaaacat atagatctgg tttgaattcc   2220

aggatcgagt ttacagttgt gaaatcttga aggtattact taacttcact acagattgtc   2280

tagaagacct ttctaggagt tatctgattc tagaagggtc tatacttgtc cttgtcttta   2340

agctatttga caactctacg tgttgtagaa mactgataat aatacaaatg attgttgtcc   2400

atggaaaggc aaataaattt tctacagtga aaaaaaa                            2437
```

<210> 78
<211> 582
<212> DNA

<213> Human

<400> 78

```
ttccagatca aattattatt tatttcaata agactattgc gaggcattaa aaaaactaaa    60

tagtaatatt acaaaatcta tatacttgca catttagtat ttgtcaatgt gccagaggtt    120

ttcttcatga aatttgactt ctttgaagtg aaggcttttt tctatcatct cttatagctc    180

tgactgaata agtcttaatg ctttcttcat gttttctatc aataggggta aatcccgagg    240

cttatatgtg tacaatctgt tagagtatct tccagctatg tcagctctaa ctgttaaaga    300

agggtctaca aacatgattc taggcacata ttgcccatca ggtgataaat tcttatcagt    360

ggtttcatgc ataaggttta gcatgatgaa cttattctga gccatttctt gtatttcttc    420

attttgggca aatactttct ttagtgcttg agagtattga caatcctcca ggtgatgaat    480

aaccattaat ggcttcttac ttttttgagc ataaaagaga ccttgctcat aagtttgtac    540

ccaagagatg gcatctaccc atcctcttga gagtgactga gg    582
```

<210> 79
<211> 511
<212> DNA
<213> Human

<400> 79

```
ttgaaagcct ttacatttat tgaagagcgg acatatgttt gcaaatcaca gtgtgcatgg    60

gcatgcatta catggttcat aatgctattc caattaggct tttcatagtg ccttctcata    120

acgtccttta aaaaaaataa taactgaaag ggaaaagaaa gtgtcaattg caattacatt    180

tacaaaacca aactgctgct ttcaattaga gtgaatctgt gcttcgctac tcagatatac    240

acatgtagat tttccaaggc ccatgcacac acttctgtag gggcagaaat tttctatgaa    300

taatggcttt agcaacccga atagtatctc taaacattga caagcttggg gaacagggca    360

acaagtgcaa tgaacaatac aatttctaac gtttgtccca gtcaacatac cactttgccc    420

tggagatatt taacacagca tttcattttt ggaatgataa gggataattc atctaattaa    480

gggtattata cagaatatac ctataaaaga c    511
```

<210> 80
<211> 987
<212> DNA
<213> Human

<400> 80

```
gtgatgatcg acatttgaat ctctttgccc tttccaacgg ctatggcatc aggttctaaa    60

ataagctcgt aattttttcct gttattttaa taatatggaa atattagcat agtgtttctt    120
```

- - -

185/439

```
ttgatagtga tagactataa tccatattta aattttatag agaagaaatt ttattgtact      180

gtgatgtaga tatttattat ccaggtaagg atttgcccgg tgtgtatttt ttacaattga      240

gacattttac tttaatcttt aacaaaaat gcattaaaaa cacactcaaa aaaaaacaaa      300

aaaaaaaaaa aaagacaacc caaacggggg gggaaaaaag aggtgattgg cacccttat      360

cacgaaaatc ttcctgcggg cggccctcta ataaccagtc ttctggaaca actgtgccca      420

aaccgaggtg tcgctcttta aaataggcgt ggtctcccac catatctaac actcaaatgg      480

cgccgcctct tctcaaaaga acccacaaat atgtgtgccg accaagagtt aaaaaacccg      540

ccttgcgttg gacggggcgg acattatctt ggattggcac caacactatt aaaagaggcg      600

atgcgacacc caaccccgat taattggcag cagacagaaa tcctttctca actagtatag      660

aaaactgttg tggccctcca ccacacaaaa ggacgaatcc tacccaacta atgtattagc      720

tcctctccag tgtgaacaat atactaatct ggatgcgccc cacccaagc tggttagcta      780

acacaaacac cagggaggga agacacacgc attttgtaac acaaatagat ctaatattag      840

actcgtgccg tataacatcg gacactaatc tctagcacca gcgggcgtcg actgtaatta      900

tgtcccgcca ctgctgctgt tcgtcggcat gttatcatgc cccacgctct ctgtgatcct      960

acacgagagg gatcacccca cgcttat                                          987
```

<210> 81
<211> 483
<212> DNA
<213> Human

<400> 81

```
ctgttcaaaa aaggttttat ccaaaaaagt taatcaagac aagcaacaga tactgcaaag       60

cattatatac agcaccatag tccaggggcc aaagaaatca ggaggggctg ggcagtagag      120

gaattccata tattaatgaa tgtgagatta agtatagagt gaagacatta acacacaatt      180

ctaatttctg ttaggcagaa tgctcccta ccctgatgcc acagcctttc acgtttccta      240

aaccctagta acctctgatc tccatctgcc tcatcaacac gtcaccaccc tttgctcttc      300

ttccaattag tcacatgttg gctgaattta tttcactcca gtactttagg accttgacag      360

acaaatcgat tacaaggtca attcccagga tttcttcagg gtgtgttcag gagtgcagat      420

gttctttgga tgacctttct actaaattag acctctgaag gagaaagcta cttgccagag      480

gct                                                                    483
```

<210> 82
<211> 552
<212> DNA

<210> Human

<400> 82
```
tttttttacc acctagaaat aaacattata ttttcctctg atatgtaggt aagaacttca   60

aatataagac ataatttaaa agtttataat tgacatagtc agggattata aataatatca  120

cacaaaataa gctcttaatg caagaaatga atctccagga tagatcatac taatctatcc  180

aatccagccc tctgttctga aagcagcaca tgaaaaggca gagaaagaaa aataatctct  240

acgacctggc ctgttaaaca tgtatttatt tcctgagtaa ctattaggtg ctagctgtaa  300

tgggctattc agtggaggac agtggtcaaa gcctcttatg atgtatggca gatgccagaa  360

agatatgaaa gatgtgatgg tacaaaaaag gaagttggag tcacatccag ccacaggact  420

aactaagcct ctttggggca ggagactttg gaagtgttga aggagagtag aatctattca  480

gaaagaaaca actgggggca ggtccttcca gtctgaatga agattaacta ggcgtaatgt  540

aactggcatc at                                                      552
```

<210> 83
<211> 505
<212> DNA
<213> Human

<400> 83
```
gactgtagaa ggaaagcatt ttattgcaaa taactaatag ttacaaaagc acttttaaa   60

tgttattatt agatgttaag ccgaaaatct agaaactaac atttacccag gttacaaaat  120

aagagcttca tatttttcaa agtctctaag ggtaaggtac atccccagat aaaatgagta  180

taggccagtc tcctttggct ttgtggattc tttccaaaaa ttttccagac tatttagctt  240

tccttgtgta gttacagctc aaattagaaa ctgaagaaac agcaagtggc caggcagggt  300

agaaagcaaa taaactgagc tacctgtgcc tttttccaaa tcagtatatg tgcttggctc  360

ctgaaaaaaa aaattctgat atgtaggcat tctcattact tagtgagata ttagtgaaga  420

cctttcaacg tataacacac agtaactgtt gcatagtttt aataaacact tgaattttcc  480

aggaatgtga ctgctgtgta aatca                                         505
```

<210> 84
<211> 671
<212> DNA
<213> Human

<400> 84
```
gcggccgcgg ctgcggcggc agcagcactg ctgggtctg gctgcacagc aatggggctg   60

atcatgtgct ccactgtgtg gattttgcca tcttcaatca ttttaggggc tggagctgct  120
```

```
ggaaacatgg aatactgagc cccaatggca gggatggcta ctgtaccagg tttaatggca      180

actgggttga cggtagggat ttccaaattc ggcaccagtt catatccttt ttcttgctgc      240

tttcctttcc cttcatgata tcggctatat ataccacggc cagcagaata tcccccgagg      300

taggaacccc taggccctgg ggctctgttg ccagctgcac ctcgccctcg gcctcttatg      360

ctgcctgctt tcacaaagta gtccctgttg ggcccaatga gcgcgttgta ggggtagccg      420

tagtaggcca gtgtgtaggg gtcgcaggag tacacgtagc tgggctgctg cgctgcctca      480

gccgcgccgc cgcccctggc tgccttctgg tagcgcgagt actgctcctt gtccacgggc      540

ttggccagcg tgacctccag gcacgagccc tccagctcag tgccggttga gttgttcatg      600

gcatgcacgg catcctcgcg gctggtgaag tgcacggagg cgtaggtccg gatcttcttg      660

acgcgctcca c                                                          671
```

```
<210>    85
<211>    563
<212>    DNA
<213>    Human

<400>    85
tttttttttt atatctgtta taagcttttt cttttttaga atttaagctt atgagtttat       60

ctacgcccac tatattcata attacagttt tatatctgca tacaaaagct atgtaaaat       120

ccattttttcc caaatataca aatttttttt ggatagttta aacattttg atcacagatt      180

tcaacagagt tttaggctga aaaaaatatc accatctagc aatatcactt aacactgttt      240

gcaaaacaca aatcttccaa tgactgtaaa tctttttcta ttctgtagta tttttctgat      300

tctcagggca tgaaaacatt atgggaaaaa aaaggatttt ctacgaagaa agcatggaga      360

actaatttgg ctctatggtc aaattaaaaa tgccaagtta ataagggaga accaaaagaa      420

agaagtggca taatgtcaca tcagctcatt catgccctga taatttctgt atcaacaata      480

catatgtaaa gtgtctcctt ttgtcttaca ttgtgctcca taatttacat gagtattatc      540

tgcatcctga ggaggacaga ttt                                              563
```

```
<210>    86
<211>    545
<212>    DNA
<213>    Human

<400>    86
ttattaggga ttcctgccac cttattaaca tataaaacaa tctggatgtt gacatagaaa       60

tgcaaatttc actatacaaa ggtaaggctc caagcacagt aacatggccc ccatatcttt      120

agtatttcaa tgaaataaac ttattgggga ttcaccccga gttgtgttta taaatattag      180
```

```
acaaaccaca aaatatattc caaatacata acattttaca atattttca agcacagaca      240

aatacatact ttactttacc tacattgttt tcatgatcca acttgcatta gcactaaagg      300

caatattgtg tgtgtatatg tatttgccat atgtgtgtgt gtattatata tatttatttta    360

tatccacaaa tgtacactca gtggcattta tggaaaattt aacccttttca ggctgtgggt    420

tttacccacc atagtatctg agagggagaa gaaccaataa tacatctcaa attcctcaat     480

tagggcaaaa taagcacaat tatgcatgag gggcatatat gttgtgtcta ttcaaagaca     540

cacat                                                                  545
```

<210> 87
<211> 464
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (28)..(28)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (276)..(276)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (422)..(422)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (463)..(463)
<223> n is a, c, g, or t

<400> 87
```
gcagcgtttg tccctgggca tgtgatgngg agtcctgggc acatcgagat gctttacttc      60

tttctttcga cctcttaaaa aactaaacca agccaaacca caaaggaaat ctgcacaact     120

taagagaaac ttgaaaggga tcgtgtaact actagtttgt actaagtttt tttcaagaaa     180

gggaaacaaa tttatatata tatatatata tatatatatg tgcaatatat ttttacactg     240

tgtgattaac attagggagt actgagtgca tcactntatc agtgtgacgg gtgatgtcca     300

cgtcatggct gttctgactc tgaaagccac ttctgctgat gtctaaaccg cactcaccgc     360

ggacgtccgg ggttgtggtg gccctgctgt gcctcctgca ggtgagaggt gtggtgttgc     420

cngttggact tgctgttgag cctggttgca aacctgtagt gana                      464
```

```
<210>  88
<211>  611
<212>  DNA
<213>  Human

<400>  88
tttgctaaaa atttaccaaa atagtttgaa cacataaaaa tattttaaa  aaaacagaac     60

caaaaaccca gcataaattt agttgtatag gcattggtta gaggacactg ttttcactaa    120

ggattatatt caacaacttt ctcttgagtt gttactaaaa ttctgattct gaaccttata    180

gcttataatg gtgccaacta ttagaaatgg gaaatctaa·ttcagtccaa tgtaacatgt    240

attatgatat aatagatgaa gggtatgtct acactataat aaaaaataaa catattttg     300

gttatttaaa gaccatcttc ctaacctgta actaaaataa ctgtatttga tttaaactta    360

tttaagtgca gtgaattatg gaaagctaac ttaaaggttt gaataatcaa ttatgagtaa    420

ggaacacctg ttgacagccc cgtgaccctt cagaaccagg catttgctga aaaaaagaaa    480

tcactagcat tgaatatagc ccttagtcac gtgagagatt aacttcatga gcaacccagc    540

atgtagagga tgaggtggac tttcccagcc acccactcct tgaggggaca gtagtattca    600

.tagtgaaact g                                                        611


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<213>  Human

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agggacatac aatatctaat aggctatttt tcaaccaaat aataatttat gtccttgtaa    180

gattttgtac ctctttaaaa ctttcaactt caacatccac ttttttagct ttgctaatca    240

aattaagaat taaaaccagc ctgcaaataa taacagtata taacattaag cacaatttca    300

tttctttctt tatacaaatg ttctatattt acttgaccaa atgcttaatt accttttaaa    360

ggtttcaata ccgtggttaa aaacaaaaca actgtgtata cctccagact atatgaaaaa    420

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aactatctgt attaattta  aagaatgttt taaaa                               515


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<211>  535
<212>  DNA
<213>  Human
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<223>  n is a, c, g, or t

<220>
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<222>  (424)..(424)
<223>  n is a, c, g, or t

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ctgaggctgt agaagggagc cggaagcccc tcaacttgat cacggtgaga acacagggag       180

cctttggaga agctattcag ccactgtagt taagagctcc tgttctgatc cagggagacc       240

tgggttcaag tcctgactca gccacttcct agttgtgtga gtttcagaaa aaaaatcact       300

tcacctctta gaacgcaatt tcagcttctg taacaatctc taggttagga gggagtgggg       360

cgggtgaggg cggggagggg agaggaaaaa aaaacacaac aatctctatg tggtttaagg       420

gnanggggt taaatgagat gatcatgaca atgcctatag aagtgctggg agtatgaaag        480

ctggaacagc cctgtgagct ttgtgtcgtt gtccgatttt tgataagggc aaata          535


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<212>  DNA
<213>  Human


<220>
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<222>  (97)..(97)
<223>  n is a, c, g, or t

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<222>  (322)..(322)
<223>  n is a, c, g, or t

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gtaaatggct tcccaaggtc acagtggtgt cagtggcaga gctggtactg taccaggctg       180

cctggatcat agactgatgt ttttgccaag accagccgaa atgttcctct caggaggtgg       240

caggtggggg tggagtgcca ggaaggcact gtccaaagaa gtgggttaag gtcacagcct       300
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cccggctccc aaggacccc  tngagaacag  ttgctttgga  aaggtcactc  agatgtgaac      360

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ggcgggggac agggattcat  cctccaggtt  cctcacaccc  ccactgggag  cagcgccccc      480

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<212>   DNA
<213>   Human

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aaaataggac aacacatgta  ggcaatacca  agcagttctt  gtggcagcaa  ctggaaacct     180

tttggagaca ccattctgca  tttcgttgta  gtcatacaca  aaaccctagt  tatgtatcca     240

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aactacccaa attattgagg  tgttttttgct  cacttcttcc  cattagaata  aatgtagaca     360

ataagaaacg catgagggat  gacatagtcc  tccatcaaat  ctgtcctttc  acacaagaga     420

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<212>   DNA
<213>   Human

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gcttctctac tggtacacat  attaccctag  cctatgtttc  tgagatgcct  tagtgaaagt     180

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gggagatgag tggcactggc  aattcacacc  ctgaaccttc  agcttcacaa  caaaatcgtt     300

tgtgaggcca aaggaatcaa  gacagcagag  ctcaaagcag  ggccagaagg  tgcaggggggg    360

accacattgg cgggtctcgc  tcaggacac  gatggcgtca  ttgtaacagc  actgctccaa     420

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a                                                                         481
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<211> 4021
<212> DNA
<213> Human

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ttatggtgac gtagaagaac ttatggatgc gggcaatatc aaccggacca ccgcagcgac   180

tgggatgaac gacgtcagta gcaggtctca tgccatcttc accatcaagt tcactcaggc   240

taaatttgat tctgaaatgc catgtgaaac cgtcagtaag atccacttgg ttgatcttgc   300

cggaagtgag cgtgcagatg ccaccggagc caccggggtt aggctaaagg aagggggaaa   360

tattaacaag tcccttgtga ctctggggaa cgtcatttct gccttagctg atttatctca   420

ggatgctgca aatactcttg caaagaagaa gcaagttttc gtgccttaca gggattctgt   480

gttgacttgg ttgttaaaag atagccttgg aggaaactct aaaactatca tgattgccac   540

catttcacct gctgatgtca attatggaga aaccctaagt actcttcgct atgcaaatag   600

agccaaaaac atcatcaaca agcctaccat taatgaggat gccaacgtca aacttatccg   660

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agttcaagaa ttgaccaagg aatggacaaa taagtggaat gaaacccaaa atattttgaa   840

agaacaaact ctagccctca ggaaagaagg gattggagtt gttttggatt ctgaactgcc   900

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gcaggaggtg gagacccagc gcaaggagac agaaatcgtg cagctccaga ttcgcaagca   1500

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<211> 2917
<212> DNA
<213> Human

<400> 95
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<211> 138251
<212> DNA
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<400> 96

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ctgccccagg aaatgtgatg gaatgacatt tactttctga gttgagagaa cacataacat 137040

tctgtttcaa gggagaaatc atcttggaat ttccggattc tccagaacac aaaattatta 137100

attaaattat taaaagaatt aaacctataa aatatcaaat agactattct aagccattgc 137160

ctaaattttc ccaatatcca ctaaaattgg aggcagttca gggactttca ccaattatag 137220

aggaattaat taaatgagga cttataattc cttcactact ccctacaaca ttccaatcct 137280

accaatcaaa aatctaatgg acaagttgga gacttgttca aggtttacgt gcagtaagca 137340

aaactgcaat cccaagattt cctgtggccc taaatccaga aaccaaacag aggaaaattt 137400

aatagaacca ggtctttatg gaggtcactg tcaccacatc tgagtaactt gggtgcagaa 137460
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```
tctggggaca tgattgactt tccttaattg gatctacaca atttacctga ggagaaatgt 137520

tttgctaaag aggctagcct tgattagatt tggcttaaca ggagccaagt tattcaggtg 137580

ggtcccttgg attatacagt tgatgagatg ataggactga ttagcatata taattgatga 137640

ggttatcaac tgcataaaaa gagggctcac cactcacatg gtgctttccc aggagagtgg 137700

aagaagctct gagcaccgga gtgtggtgac agcgacctcc ataaagacct ggctccattg 137760

gattttcctg tttggtttct ggtgagtact ggagaaattt ttaccagggc agacgcatcc 137820

catttatttt cgtcaataaa ttttaacgtg aaaattattg tttaattgga ctacaggtat 137880

ttggtggcaa gctctctgag aggagtttag gttactgtgg acatgtaatt tctctcgaat 137940

tctagttcat atgtaatggt cagagaaaaa cttacctaat cttggcacac aggagttgat 138000

ttctctgggc tgggcatgtt ggttcatgcc tgtaatcctg ccactttaga aggctgagtc 138060

gggaggatca cttgaggcca gaagctggat accagcatgg caaacatact gaggtcccat 138120

ctctacaaaa tataatttaa aagttacctg ggcatggtgg tggctcatgc ctatagtcct 138180

agctgcttgg aaggctgagg caggaggact accttgagcc caggaaatgg aggttacact 138240

gagctgtgat c                                                      138251
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<210>   97
<211>   140
<212>   DNA
<213>   Human


<220>
<221>   misc_feature
<222>   (20)..(20)
<223>   n is a, c, g, or t

<220>
<221>   misc_feature
<222>   (63)..(63)
<223>   n is a, c, g, or t

<220>
<221>   misc_feature
<222>   (72)..(72)
<223>   n is a, c, g, or t

<400>   97
gcggccgcgt cgaccgcggn cgcgtcgacg gcaaaggaga ctgctgaggc tgttgctgat    60

ganatactgg anaaggctgg gccacttgtt gctgtgtctg ctgttgcact tgatataact   120

gcctacccct aaaagccaaa                                               140


<210>   98
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<211>   492
<212>   DNA
<213>   Human

<400>   98
tttttttttt tttttttttt ttttaatata attatttatt gtaatcatgg tttatagaaa   60

tcacattttt tatagattaa aaaacttaaa aataaaaaag tactaagtta aaaaaaactc   120

cactaggaga ttactaaaac tgtaggccac attcatcttc ctacaattct tcacccacaa   180

aataaaatcc aatttaggag gctccattaa ctcttttaat atatttctaa atcttaaatc   240

tatatttcaa aatgaacatg gtacttcata tgggcccact tttcataatt ctttcaactc   300

aatgttttag ccaaaactgc aaacatttga aatttaattt tgaataaaaa ttacagctta   360

tgcaccaaga taacattaga aagtgtcttc agacattta tcaggtattt tcctcattac   420

acccaaccaa acacagaaag aaatatatat ttttgaaatg tcaattactg ctatgctatc   480

aaaagctgac at   492

<210>   99
<211>   275
<212>   DNA
<213>   Human

<400>   99
tttttttttt ttttttggc agagcagttg ccagaactac tattatttgg tttttttttt   60

ggttttggtt tttttttttt tttttttttt ttgcaaactg cagttggaca agcatcttaa   120

ctgcttttat ctgaagagg ggggaccact gttgtctcag tcacaaaaat tctgctgagt   180

gtctttccac tggaaatacc ataagataag ctctcataag acaatttcac tattccaagg   240

gcagaatgtg gcaaagtgg ggctgctgct agctt   275

<210>   100
<211>   222
<212>   DNA
<213>   Human

<400>   100
tttttttttt tttttttttt tttttttttt tttttttttc ctttgacagt gaccatttat   60

tacacacatc agactggggg aagaccattg acatagctga gcaccaggta gggtgtcctg   120

ggtattcggg catgagagca gcagggcct cctgacgcgg gcaggagaaa catggcaccc   180

accaggagga ggaagaggag gaagaggata aggaggaagg tc   222

<210>   101
<211>   440
<212>   DNA

<213> Human

<400> 101
```
gttctgctct tggtgctttt gtttttgttt tattttgtat tgtatgacct tgaattacaa      60
gtcttcccct cccaggaaag gactgttctt cagggctgtc ctcagattct tatttcatat     120
cttaaaaatg acatagtaaa aaagacctag atgtgatagt aaacccttat tttttaatat     180
accaaacagt tgtaaccaca aaagcactgt aatcatcatt tcttggaaaa gttataagca     240
tatttgaaac ttgaaacttc taaaatcttg gttagagaag aaaactaaat tctacattta     300
gtggaattaa gcttctacct aatagctttt ataccaactt tccaaaagta ggagtggtac     360
caggtttcca tgtaaaccca agaaagcagt ttatccatcc acacagccca acccttgctc     420
caatgagcat attactgggt                                                  440
```

<210> 102
<211> 559
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (548)..(548)
<223> n is a, c, g, or t

<400> 102
```
aattcgcggc cgcgtcgacg ctgcgagaag acgacagaag ggccattcta ctaattttaa      60
agaacatctt ggaattttac actcttggaa tcatagtcgt agaatccttt ttttgagaca     120
gagtctcact ctgtcgccca ggctggagtg cagtggccag atctcagctc actgaaacct     180
cagcctccca agttcaagtg attctcgtac ctcagcctcc tgagtagctg gaattccagg     240
ctgtactcac tgctttgctc atatccccgc tcattaccag ggacaggcca gcacccctgg     300
cattgcatct cacatatcca ctgatggatg gagaacagac tgaaattcag tgccttagag     360
accacacact ccaaccccct cattgtgcag atgggaaaac tgagagccat agaagggaag     420
tggcttgccc aaagccacac ttactgtttt ccccacactg taccacaaac tttcaccatt     480
cttcaggttt ggaaaaatac taataaactg atcaacacta aaaaaaaaa agcggccgct     540
cggttgtngc gcggccggg                                                   559
```

<210> 103
<211> 388
<212> DNA
<213> Human

<400> 103

```
ttttttttctc ccagtcattt gattttattg tgttttttact aagcattttt attatcttca      60
tgtagtcaaa tgtgtcaata ttttgttgcc actggatatt tccaccacgt ttccttctgt     120
atttatatgg cttcattttc ttacatttgg atcctggatc cagatggagt tcattcttgc     180
atatggtgtg aagtacaggt ctaacttcaa ctttctccaa ggggctttcc agttggctca     240
gcaccattta ttaaagtctg ctttgacctg cgattgaaga tgccaccttt aactcctcat     300
cccccacccc taagaaacct cacggaacat atgacccaag agcagagcag acataaaaag     360
attaactgag ctactgagat tcggtcaa                                         388
```

```
<210>   104
<211>   545
<212>   DNA
<213>   Human

<400>   104
tttcttttta ttgctaaaga gtattttatt gtaaatatat atcacaattc tttattcttt      60
ctgtcattta tgggcattta atttctttga ataaatttaa caagttgcaa atgaatattt     120
agcaaattgc actcagatta aaataacaaa ataatctctt atcagaagct aagaaataca     180
ttttcctcct cctcatccat atccaaagac ggttctgaaa atgccttttc ttctctatta     240
tagcaacacc tagtggcttg agaaggccag gtctagaggt atgcatttac ggctgggaaa     300
cactgacctt tagctttgaa gacctcaggt agcacctaga cgtcggctat aaccgcataa     360
caatggtccc catctgaaac catttaagtc agaatctttg gaggaagagg ccaggattgg     420
taggttataa aagttgccca gatgatttta atgtgcagcc aaggctaaga gctacttatc     480
tagaccagtg gtttgcaaac ttttgtcaaa taatcagaat cgcgtgtcaa acacagattg     540
ctggg                                                                  545
```

```
<210>   105
<211>   580
<212>   DNA
<213>   Human

<400>   105
ttttttttta atgttaacat tgagagtcat tacggctaaa gctttgcctt catcacatag      60
ctaaaaagaa ggttgagctg aacttagga tactttaaag catttcctgt ttaggtatta      120
ggctgataga gaatcatgtg taactggggt cagcattcct ataatttttt gagccaaaga     180
cagaatacac actttaccct gacaggtttc ttccagaatt taggacagct gatgaaatga     240
aaagacacac acccaagcca agagtgcaaa aggatgtagt agcatgattc cgccaaccaa     300
atgcctcata ccctcagacg tcccaaatcc agtggtgagc aggtaaattt ttaacaacaa     360
```

```
tctttctttg tgaggaaaaa agttcctgat ttccataatg taaatacttt cactgactgg    420

tttgaagcca tcaacacgtc aactaacaat tggttcctgc atgtctataa gctggcttta    480

gcacaccact gcaaacctac ttattactta tattttcaga tacattacag cacttatcaa    540

ttctaacatt gtgaaaaact gctgtgcttt aggcatcttg                          580
```

<210> 106
<211> 618
<212> DNA
<213> Human

<400> 106
```
tttttttttt ttaaagtttt acttggaata tgtgtatttg ctaaagttac aagggaaaat    60

attgcaaatt atacatcatt tgaaaaatta tctctcttta gttaattttc agtcacaata    120

ttggatgtag cagctccaaa tagaggttac ctgattattg cttttataat tgaattctta    180

aagagtttac atcataatta tataattgta tttttaaaca tcacagaaac ccaacatgta    240

cctatttgta atcatcagag tatatacatc tgattaggac tcagctatgt tcaaggcttc    300

atcgagccca acatacaatt atcatttgca ttttctgcta caatcaaaga aaacacattg    360

tgtgctatta gtggccattg caagaaggaa gatgctgttt tcaataacag gaaatcaaga    420

acaaacaaaa taatcgtctt ccatttaaaa aaaaaagaaa gcctacagaa aagtgaaaag    480

gacagggtcc taaaaacatc tagtgatgcc aataaaatgg aatgttttt aaaaagtgat     540

ttgtctcact gaagctgcag aagggtatcc cacacttata tattatgtga ctgcactaaa    600

aacagacgct tttggtgc                                                  618
```

<210> 107
<211> 538
<212> DNA
<213> Human

<400> 107
```
tttttttttt tttcaatttg gctatatttt aatttttaaa gaagggaaca tagagctatt    60

ttgagaaaaa taaagacatg aaaggatagc ccaagagagt ccagtaaaaa aagcagaggc    120

aaagttttcc ttggcttttg gttatgggct gtctgctgaa tatgagtctt ggatcttttt    180

cagcatcaac ttgcaaaagc tatgcctttc cacccttgcc cttgtagctt ttttgagtcc    240

aggtctcccc actcccatgc caatggaccc tttataatgg ggaaggcatc acagcaagac    300

gcaggcttgg ggctttccca atgaccaggt tctcattaag tgccatctca ccatcaacca    360

gcgacagcaa tgtccctttt gcccaagctc ctcctttccc tgcactctgg ttgccctcta    420
```

```
aatggcacca gcccaaacca gggacagtca ctcgtccact cacttcccaa atatttacag    480

agcgcctgtt gggtgccagg ctcctccagg ggccctgctg ccaggccgaa gcccacgg     538
```

```
<210>  108
<211>  542
<212>  DNA
<213>  Human

<400>  108
gaaaaaggaa tctgtatttt atttactcat tcatatttta gatccagaac caaagaaaag    60

caataaagtt ggtgaaagac tcatacaacc cacaatgttg cccccataaa aaatattcca   120

aattaatttc tggccacaaa ttctattttt acagcatgta attgaaacca gattaccttt   180

ggttttttcta agccacccccc tccacccccta gagaggggggc taaaaagaat gtagtataag   240

tgaatcttga aagatatcct tggattctgc tgtctcaaat acagtttgct gcaaaaagtc    300

tttgccaact aaactatcat taccttcccc gatgctaagg ttgaaaatca gcatcttgat    360

tataagccta actttcaagt ttctaactca gctgcaaaat attttcccaa ctaaacctgt    420

ggtgttccaa aaatatatac tatacagcaa tttctaaagt tataaatgtc ttggcgcatt    480

tggcatactt gcttaattcc aaaatcatta aaaagacaca tttagtgaaa aagtatctca    540

ca                                                                 542
```

```
<210>  109
<211>  484
<212>  DNA
<213>  Human

<400>  109
cttatagctt ttcattatca tttgttagga gaattaagac aaaaattatc atgtgtgtca    60

caggaccaaa aaaagtgatt aaattttttg tttgtttgtt tatcttacca aattgtaaca   120

catgtagttt tcttctttct ctgtgttcta ttttattatt gtaaccactt tggtctttttt   180

ttttgtataa tcaattgcag ctagaatggt gtatggctct aatagatat tttggataat   240

gctgagtccc agaaatgtga agcctttccc gagtattgag ttcattaaag gttattatca    300

tcgtgtttaa tcagtaagtg attttaactt tcttcattat cccctcctct tgtttaactg    360

tggataagta gttcccatgg attgcttcct ctgtcttctt agcgagaaat atcggtggct    420

atgagatcat agctcaacag cttcaattct gtgctcttcc tctgagcaat ttttcttctt    480

ttca                                                               484
```

```
<210>  110
<211>  478
```

```
<212>  DNA
<213>  Human


<220>
<221>  misc_feature
<222>  (57)..(57)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (78)..(78)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (89)..(89)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (165)..(165)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (170)..(170)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (200)..(200)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (248)..(248)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (270)..(270)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (360)..(360)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (365)..(365)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (379)..(379)
<223>  n is a, c, g, or t
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<220>
<221>  misc_feature
<222>  (385)..(385)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (402)..(402)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (439)..(439)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (457)..(457)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (474)..(474)
<223>  n is a, c, g, or t

<400>  110
ttttttttgca ttatagtttt ataacttggg ggatggggca aaaaggaggg agaagtntaa      60

aaaacaaatg gagtgggnca caggaattnt cagaaatgga ggcttaggct gtccatacag     120

gattcagcaa gtacttgggg actgcgacta gaagaagcca gggtngggan taagtagctg     180

aggaggagag ggagctgatn tggaggagag caagggcaac ttcaaggaac aaaagggaag     240

ctgcaagnac cagctccatt aattcagcan acattccttg tctgtatgcc atgccagggt     300

ccttgttcta tggttctctc agtggggtag ctagaaactt gcccaacaga caggaacagn     360

cagangccaa agcaaagant tcctnaaagg tagccggcct gntgccaaac ctggggacaa     420

actttatgga ggcgccgtnt tttagccaga ccccgantta aaccttggtc ccancctg       478


<210>  111
<211>  313
<212>  DNA
<213>  Human

<400>  111
tttttttttt tttttttttt ttgaggttta tgctcatttt attataaaaa aatacagaat      60

ccaaagttga ttgtgacggg aagagggagg cccggtcgcc agctccaggc ctggcaacgc     120

ggcccgcccc gccgaccccc tacaaaagcc ctctgcccac cccccaccac cgggcgtgcc     180

tcgagccgcc ggccggcggt acaacaatat atatttatat ataatatata taaaacacag     240

agtcaggaaa ggcgggtaga aatatgaaat ccgtataaat gtgttgtttc cttcattaaa     300
```

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gtgtcttcgg gga   313

<210> 112
<211> 498
<212> DNA
<213> Human

<400> 112
aacgtttttt tttttttttt tttttgggt gtatgtatat aaactttatt ttattctctt   60

ctggggttgt gttacatgac aagaaattga attaattcaa taaaatttta gttcgggttg   120

cttaggtttt tactgctccc attcttgctt ttactaattt atccaagatt agatgtgatt   180

actatttaat aataatttag tcctcacact tacaaaccac ttacaatacc agcatgcttc   240

tatcactgta attctattca attctcaggc ccatgaggca tgccagccag acgaccagac   300

agcatttatt gagtgcccac tctataccag ccacaaaaga tcctgtgtca gaaggggaaa   360

caggcttgga ggcttggagt atgtacgtga tagcctccct cccagtccac acaactggta   420

ctgctggggc tgtaactaga actcaggcct ctgcctctca agctcaaggt cggatgtcca   480

tgtgcttctc acgttgcc   498

<210> 113
<211> 590
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (450)..(450)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (515)..(515)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (547)..(547)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (558)..(558)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (570)..(570)
<223> n is a, c, g, or t

- - -

```
<220>
<221> misc_feature
<222> (581)..(581)
<223> n is a, c, g, or t
```

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<400> 113
ttaatatttt aaaagcttat tgaatcacaa gcattttttt attttactgt aaaaacatca      60

tctttatcag ggagggggga aagtacaaaa ttatgtccct gatatgattc aaccatgtaa     120

aatgatgtac atttatgaac gacgactaga agtgaacatg aataactgaa acaaacagt      180

gtgatgcaag tgaatttttg gagggtgaga tggtcattat attgttcttc gagcaattaa     240

atattttatt ttcttcccaa aacaatgtcc acaggggggc agacagaaga tgacaaataa     300

aaccatttaa taaaaacctc agctgaaaag ctaataactc cagaatgcag gttgaaagca     360

agcttaaagg tcatctaggc tggggtcagt agctcacgcc tgcaatccca cacccctggg     420

aggcccaggt gagaggaccg ctcgagcccn ggaggtaaag gccgcagcga gctatgaccg     480

cgccactgca caccagcctg tgccacaaag taganttcgt cccaaaaaaa aaaaatcctc     540

ctagtcntct agtccatntc ccccccctggn caagaaggac ngaggcccca              590
```

```
<210> 114
<211> 365
<212> DNA
<213> Human
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```
<400> 114
taaaattctt tggattttttt attggattca cataaagcaa agaacttact cacttggacc      60

gagaatatat tgtaatgttc cataagtcat aacttaagga ccgagaatat attgcaatgt     120

tccataagtc ataatttaat gtgcagtaag aacccatgaa gttgtctgac caaaagtaac     180

actcttctgt tgggaaagat tttacatcct tttattctgg atgaatcctg aattctagat     240

gttgggttta atgcttcaca caatggcaca tttacaagag gtacaaaaca cttattgagc     300

tttcagggcc actgtaaggg gcttgcagaa tagcctcttt gcaacccaga gaattaatct     360

gattc                                                                  365
```

```
<210> 115
<211> 539
<212> DNA
<213> Human
```

```
<220>
<221> misc_feature
<222> (359)..(359)
<223> n is a, c, g, or t
```

```
<220>
<221>  misc_feature
<222>  (481)..(481)
<223>  n is a, c, g, or t

<220>
<221>  misc_feature
<222>  (483)..(483)
<223>  n is a, c, g, or t

<400>  115
tttttttttt tttagttttt ggtgattatt taattgcaga agctattatg atataattac      60

ttctggtgga ttaagtgctg cttaaatact aagactatcc attcactttt gcctcacgcc     120

tctctactaa actgcagctc agttctgcct ctcataatat gtatgttgag taacattatg     180

accacacagt gctcatcaaa aactattgct ccagctgtaa ttttaaatgt tggaggtggt     240

tcaaaattct aaagagttat agaaataaca cacatttgac aaatacatat aaaaatagtt     300

ataacatatt gaaatcacat taaaatatga aaaacccaca aagcataatt gcatcatant     360

atttgtgttg ctagacactg tccatctatt tttagaaaac gtcttaaatg tcactcaatg     420

gggcaacttt cctggtttcc tatgtcttac cttagaagca agcagtgtgt tagaatggat     480

ntnccatgca cgttagaccc caagatacaa caagcttctc tatacagaag ccatccatg     539
```

```
<210>  116
<211>  602
<212>  DNA
<213>  Human


<220>
<221>  misc_feature
<222>  (294)..(294)
<223>  n is a, c, g, or t

<400>  116
ttccagtgtt tgaaccatct ttatttaatg aattattgat atcctttttt gtttccaaat      60

taaaacttca ccacatattt tcagctaagg taaatctgct tggtccaaac aaaacaaaac     120

aaaacaaaac accagactgc aacaataaca ggaaaagatc ctcttcagtg atttatgttg     180

ttctcttact ttcataacta gtttgaatgc aaggctggta aagggataca cagagaatca     240

ttattttaaa taacaaaagc cattcaaaac tctctctacc tgtcaaggat gttntatgct     300

cccattctta tttgtttggc agtaaacata ccttgcccac agtcgccagc atcaaaccca     360

caggacaaga cattgcatgc ttggtcacag aacttatcag cgagccagga attcgcacat     420

ccctgattac agtaagagac actgtttatt cctccaccaa actgccaggg ctgtccaact     480

ccaatactcc cagtacctcc acctcctgca atatagcgac tccctccact gtttccagag     540
```

caatccccac catcccaatc gcaggctgaa ttatttacag ccttgtcaca atagccatcc   600

tt   602

<210> 117
<211> 351
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (341)..(341)
<223> n is a, c, g, or t

<400> 117
tttttcggcc tcagtctgtt ctcagaacat actccatcac ctggttccca gaactcagat   60

tgcgcagtgg tctcgtcatc atcggccagg actcacagtg cccgcggcag aggcctccct   120

agacctccct cccgtccagc ctcacccgct gcctactctc ctcacgcccc tgctccaggt   180

cccctggccc catttcgctc gccacgtttt cataatcctc tcaggctccg ggcaagcggc   240

gccgcccgca atgggacctg atcatataag gaaaatactg cgggctcatc cgggggctgc   300

aatggtaacc cgaaagcgcc ctagcctact acaatcaccg naccccaact g   351

<210> 118
<211> 462
<212> DNA
<213> Human

<400> 118
gctaagaaat aactttatt aaaaatactg tgctagtact tatgcaatta cataatttta   60

actaaatatt gtccactgcc acaattcgca ttaccaaact catattacca aattttaggc   120

cttgatagag cctaaatgct tcagtcactt cagaccaata acttaattct gttttcacat   180

accttataca ctggcctacc aatagctctc aattcctgtc aatactttcc ccattctgca   240

aaaagagggc cccatcccca tccctaatca aaaccaatgt gttgtacctg aaactgcaaa   300

gattaatgct tttcgatgac cactaacttt tgaagcccga aggcctaact tttagacaac   360

taaagctaca cactgttaaa attcttgggc ttctgtctta ttcagcaagc tgactcagta   420

aaattaatac actgtatgaa aaaagctaac atacctacaa tc   462

<210> 119
<211> 332
<212> DNA
<213> Human

<400> 119

```
tttttttttt tttttttttt ttttggttta aaaataaatt tattttatta catgataata          60

ttgacagttt acataaacaa agttatttag tgtatgcaaa gcaactataa aatacatttt         120

gaaaagatat aaaaatcttt gaaattcttt cttgatatca gatctaccaa atttcgagag        180

ccaccattga tattttagga tcaaaacaaa atggcttgag agattttgtt ggtcagccaa        240

actcagtcca ggaaaaaaga aacattaaag cattgttttg tgtttttaaa agctctaatg       300

gatatttatt ccaagctcct ttcgtatcga ag                                     332
```

<210> 120
<211> 473
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (373)..(373)
<223> n is a, c, g, or t

<220>
<221> misc_feature
<222> (429)..(429)
<223> n is a, c, g, or t

<400> 120

```
ttttttttaa aatttcttcc agtttgggat tgtgtataca caaaaagctc aaaataaagc         60

aactctgcaa tataatctta aaataatggc tactggggga aattctatca caaccattga        120

aaataatggt gacttctcac ggagtctgtg gcatctgaga acccagttaa ttaaccaaag        180

tcttgctcat attagcctca gttacccaga ttaaagcagg aactccggcc ttccctggac        240

tgctgaaaac ccaacagatt ttctcaacat gctataagga aagagggaaa aattggtttc        300

agctcacacc tcatgggctg ggaagcttct gggaaggcct ccaggccagt ggcacactcc        360

ccaactttat ggntaaaagg aggggccaat tttcattccc cacaggcatt cacaaggagt        420

tcccacccnt ccaaccacac agtggttttg gacaccaagg ttcaccctttt cct             473
```

<210> 121
<211> 525
<212> DNA
<213> Human

<400> 121

```
gagaggtgat ataatttatt tttcttttcc atccaaatta tcagtaacag tggctaaatg         60

gcaagatagg ctaaaaaact ctaagtgacc caattttaca aattaaagaa gtaagtaaac        120

attagaatga atacagttaa acaggagagg ctgggcacag tggctcacac ctgtaatccc        180
```

agtattatcc agtaaaagtt tagcaagcaa attcaaagaa gtctgttgtg caaccatagc   240

cctttgcagt agaatctgct atacagccta ttatgaggga tcaatttctt tctttcttct   300

ttttttttg agacagagtc ttgctctgtt gcccaacctg gaatgcagtg gggtgatctt   360

ggctcactgc aacctctgcc tcccaggttc aagcaattct cctgtctcag cctcccgagt   420

agctggatta caggtgtgca ccatcacacc cagctaattt ttgtattttt agtagagatg   480

gggtttcacc acattggtca ggctggtctc aaactcctga cctca   525

<210> 122
<211> 849
<212> DNA
<213> Human

<220>
<221> misc_feature
<222> (598)..(598)
<223> n is a, c, g, or t

<400> 122
atatgtatat tttcctctga ttttatgact gatttacaaa ttaggagtgc aaatgggctg   60

ttccccgata gcatcttctg ggaagaatcc aaccaagata caaagcagat gatggtggat   120

cggcaaactc ttttctatga aaagaaaaac cagatatacc agggactgga aagcacctgc   180

ttgaaaattg atatgagcat gtctgaattt ttcccttata agagcctgag tattgtaaca   240

ggtctcttgc acaggggggtt gaaaaataaa aaaagaagtt aacataatta aaatgcttgg   300

acaaaacatt tgctttatat agattcttac aagtaatatt tgattaggta tcaaaatagg   360

tttaggcagg tggaagttct gaatttcaag gcaaataagg catgaagggt ggaacattgc   420

atctagggaa aataagagaa ataagtgaaa gtctgaccct acattgccaa ttctcagacc   480

aagtacaaag tattaggaat tttttatatc agctgacatc tttgtgctta cagtaaagcc   540

atattagatg cacacatagt gactttatta aatcaaatga gtgtgcagag cagagcanat   600

ctaattaggc tttctctttt agagttttct tattttactc ttattagctc cctccagttg   660

gtcatcaatt tcctatccta catcagatat ttacactatc agattctttg gtttaaaatc   720

ctcttccggt ttacatttta atttctgggg cgctaaacac atacttctgt cccggtctta   780

tccctctatt ggaattcccc acagcgtggg caaaaacgcg ggctcgaaaa atggggggcc   840

ccttcccct   849

<210> 123
<211> 454

```
<212>  DNA
<213>  Human


<220>
<221>  misc_feature
<222>  (433)..(433)
<223>  n is a, c, g, or t

<400>  123
ttgtgagcaa catcggctgt ttattcactt gtgtgtgagt gggctgagtc cgagaaaggg       60

gtcagcaaaa ggtggtggga ttatcattgg ttcttatagg tttgggatag gcggtgtagt      120

caggagcaat tttttacagg caggggatgg atattacaaa gtacattctc aagggtgggg      180

aggatgttac aaagtacatt cacaagggca gggagggtgt atcgtcacaa gggcagggag      240

gatgtattgt cacaagggtg gggaggaatg ttacaaagta cattcacaag gacaggagta      300

tcacaaagta cattatcaca agggtggggg aatgtcaccg tggcttgacc attagtgcag      360

ccagctccag aggaccttac caaaaagttt ccatacttgc acgtgttttc ctggtggcca      420

aaaatataaa acntttaatt tctgggattc cttt                                  454


<210>  124
<211>  485
<212>  DNA
<213>  Human

<400>  124
ttcagatttg acatgtcaat ctttatttaa gacaacaaaa gtttgtacac tctcatatta       60

agatatattt cctttctagt catattaaaa taatctcatt ttgttactca aaaagaatac      120

atagggaaga gaatgaacat aattcaagta gatagatttc taattggtta aaacagggtt      180

aaacaaatga tgttcaaaat atacttatta aagggaacag cacctagaaa taggcagtag      240

ggcaatgttc actttaagaa ttttatcaat aactagggca aagaacaaaa tcattatcaa      300

attttgaatt acacaaaagc aatggcctat taccttgtta acatttgata tttctatata      360

tcttcttctc tagttgaaat gggtaatgac ttgtattaca aggatgttac acattctaaa      420

atgatttaag ccaaaagatt atctttaata cattacttct agatataata tgtacttgat      480

gtctg                                                                   485


<210>  125
<211>  558
<212>  DNA
<213>  Human

<400>  125
ttttcagaca tgacagcatt tgacacactc ccttttaatt tattgcagaa ataatatgaa       60
```

```
catctgggaa aatgatagtg ctaaatatct cgtgaagtaa gtcattctta gaaagggatt      120

tgtgactttg aagtaatata taattagcaa gattttaaaa attattctta tgtactgaaa      180

ctcaaaacag actagcaaag tacctccaaa aaaaaaacta tcaaattaaa ctagaaaagt      240

atttccaaaa taaagacgac caaaaactag cctgagaata ctagttttct gttgctacaa      300

cacattacca caaacttagt ggcttaaaca caaatctatt atcttacagt tctgcagatt      360

agaggtccaa cacaggcttc actgggctaa aatcaaggtg ttggcagggc tgcgttcctt      420

ctgggaggct atggggaagt ttctgtttcc tttccagtct caattctacc ggctgcctgc      480

aactccctgg cttatggccc cttcctccat cttcaaagcc aggaatggtg catccctctc      540

taagcgttct ccctattt                                                   558
```

```
<210>  126
<211>  508
<212>  PRT
<213>  Human

<400>  126
```

```
Met Gln Arg Leu Leu Thr Pro Val Lys Arg Ile Leu Gln Leu Thr Arg
1               5                   10                  15


Ala Val Gln Glu Thr Ser Leu Thr Pro Ala Arg Leu Leu Pro Val Ala
                20                  25                  30


His Gln Arg Phe Ser Thr Ala Ser Ala Val Pro Leu Ala Lys Thr Asp
            35                  40                  45


Thr Trp Pro Lys Asp Val Gly Ile Leu Ala Leu Glu Val Tyr Phe Pro
    50                  55                  60


Ala Gln Tyr Val Asp Gln Thr Asp Leu Glu Lys Tyr Asn Asn Val Glu
65                  70                  75                  80


Ala Gly Lys Tyr Thr Val Gly Leu Gly Gln Thr Arg Met Gly Phe Cys
                85                  90                  95


Ser Val Gln Glu Asp Ile Asn Ser Leu Cys Leu Thr Val Val Gln Arg
                100                 105                 110


Leu Met Glu Arg Ile Gln Leu Pro Trp Asp Ser Val Gly Arg Leu Glu
        115                 120                 125
```

Val Gly Thr Glu Thr Ile Ile Asp Lys Ser Lys Ala Val Lys Thr Val
    130   135   140

Leu Met Glu Leu Phe Gln Asp Ser Gly Asn Thr Asp Ile Glu Gly Ile
145   150   155   160

Asp Thr Thr Asn Ala Cys Tyr Gly Gly Thr Ala Ser Leu Phe Asn Ala
                165   170   175

Ala Asn Trp Met Glu Ser Ser Ser Trp Asp Gly Arg Tyr Ala Met Val
                180   185   190

Val Cys Gly Asp Ile Ala Val Tyr Pro Ser Gly Asn Ala Arg Pro Thr
        195   200   205

Gly Gly Ala Gly Ala Val Ala Met Leu Ile Gly Pro Lys Ala Pro Leu
    210   215   220

Ala Leu Glu Arg Gly Leu Arg Gly Thr His Met Glu Asn Val Tyr Asp
225   230   235   240

Phe Tyr Lys Pro Asn Leu Ala Ser Glu Tyr Pro Ile Val Asp Gly Lys
                245   250   255

Leu Ser Ile Gln Cys Tyr Leu Arg Ala Leu Asp Arg Cys Tyr Thr Ser
            260   265   270

Tyr Arg Lys Lys Ile Gln Asn Gln Trp Lys Gln Ala Gly Ser Asp Arg
        275   280   285

Pro Phe Thr Leu Asp Asp Leu Gln Tyr Met Ile Phe His Thr Pro Phe
    290   295   300

Cys Lys Met Val Gln Lys Ser Leu Ala Arg Leu Met Phe Asn Asp Phe
305   310   315   320

Leu Ser Ala Ser Ser Asp Thr Gln Thr Ser Leu Tyr Lys Gly Leu Glu
                325   330   335

Ala Phe Gly Gly Leu Lys Leu Glu Asp Thr Tyr Thr Asn Lys Asp Leu
            340   345   350

Asp Lys Ala Leu Leu Lys Ala Ser Gln Asp Met Phe Asp Lys Lys Thr
        355   360   365

```
Lys Ala Ser Leu Tyr Leu Ser Thr His Asn Gly Asn Met Tyr Thr Ser
370             375             380

Ser Leu Tyr Gly Cys Leu Ala Ser Leu Leu Ser His His Ser Ala Gln
385             390             395             400

Glu Leu Ala Gly Ser Arg Ile Gly Ala Phe Ser Tyr Gly Ser Gly Leu
            405             410             415

Ala Ala Ser Phe Phe Ser Phe Arg Val Ser Gln Asp Ala Ala Pro Gly
            420             425             430

Ser Pro Leu Asp Lys Leu Val Ser Ser Thr Ser Asp Leu Pro Lys Arg
            435             440             445

Leu Ala Ser Arg Lys Cys Val Ser Pro Glu Glu Phe Thr Glu Ile Met
    450             455             460

Asn Gln Arg Glu Gln Phe Tyr His Lys Val Asn Phe Ser Pro Pro Gly
465             470             475             480

Asp Thr Asn Ser Leu Phe Pro Gly Thr Trp Tyr Leu Glu Arg Val Asp
            485             490             495

Glu Gln His Arg Arg Lys Tyr Ala Arg Arg Pro Val
            500             505
```

```
<210>   127
<211>   396
<212>   PRT
<213>   Human

<400>   127
```

```
Met Val Ala Gly Thr Arg Cys Leu Leu Ala Leu Leu Leu Pro Gln Val
1               5               10              15

Leu Leu Gly Gly Ala Ala Gly Leu Val Pro Glu Leu Gly Arg Arg Lys
            20              25              30

Phe Ala Ala Ala Ser Ser Gly Arg Pro Ser Ser Gln Pro Ser Asp Glu
            35              40              45

Val Leu Ser Glu Phe Glu Leu Arg Leu Leu Ser Met Phe Gly Leu Lys
    50              55              60
```

```
Gln Arg Pro Thr Pro Ser Arg Asp Ala Val Val Pro Pro Tyr Met Leu
65              70              75              80

Asp Leu Tyr Arg Arg His Ser Gly Gln Pro Gly Ser Pro Ala Pro Asp
            85              90              95

His Arg Leu Glu Arg Ala Ala Ser Arg Ala Asn Thr Val Arg Ser Phe
            100             105             110

His His Glu Glu Ser Leu Glu Glu Leu Pro Glu Thr Ser Gly Lys Thr
        115             120             125

Thr Arg Arg Phe Phe Phe Asn Leu Ser Ser Ile Pro Thr Glu Glu Phe
    130             135             140

Ile Thr Ser Ala Glu Leu Gln Val Phe Arg Glu Gln Met Gln Asp Ala
145             150             155             160

Leu Gly Asn Asn Ser Ser Phe His His Arg Ile Asn Ile Tyr Glu Ile
                165             170             175

Ile Lys Pro Ala Thr Ala Asn Ser Lys Phe Pro Val Thr Arg Leu Leu
            180             185             190

Asp Thr Arg Leu Val Asn Gln Asn Ala Ser Arg Trp Glu Ser Phe Asp
        195             200             205

Val Thr Pro Ala Val Met Arg Trp Thr Ala Gln Gly His Ala Asn His
    210             215             220

Gly Phe Val Val Glu Val Ala His Leu Glu Glu Lys Gln Gly Val Ser
225             230             235             240

Lys Arg His Val Arg Ile Ser Arg Ser Leu His Gln Asp Glu His Ser
            245             250             255

Trp Ser Gln Ile Arg Pro Leu Leu Val Thr Phe Gly His Asp Gly Lys
            260             265             270

Gly His Pro Leu His Lys Arg Glu Lys Arg Gln Ala Lys His Lys Gln
        275             280             285

Arg Lys Arg Leu Lys Ser Ser Cys Lys Arg His Pro Leu Tyr Val Asp
    290             295             300
```

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Phe Ser Asp Val Gly Trp Asn Asp Trp Ile Val Ala Pro Pro Gly Tyr
305   310   315   320

His Ala Phe Tyr Cys His Gly Glu Cys Pro Phe Pro Leu Ala Asp His
                325   330   335

Leu Asn Ser Thr Asn His Ala Ile Val Gln Thr Leu Val Asn Ser Val
            340   345   350

Asn Ser Lys Ile Pro Lys Ala Cys Cys Val Pro Thr Glu Leu Ser Ala
            355   360   365

Ile Ser Met Leu Tyr Leu Asp Glu Asn Glu Lys Val Val Leu Lys Asn
    370   375   380

Tyr Gln Asp Met Val Val Glu Gly Cys Gly Cys Arg
385   390   395

<210> 128
<211> 219
<212> PRT
<213> Human

<400> 128

Met Ala Asp Lys Ala Lys Pro Ala Lys Ala Ala Asn Arg Thr Pro Pro
1   5   10   15

Lys Ser Pro Gly Asp Pro Ser Lys Asp Arg Ala Ala Lys Arg Leu Ser
            20   25   30

Leu Glu Ser Glu Gly Ala Gly Glu Gly Ala Ala Ala Ser Pro Glu Leu
            35   40   45

Ser Ala Leu Glu Glu Ala Phe Arg Arg Phe Ala Val His Gly Asp Ala
    50   55   60

Arg Ala Thr Gly Arg Glu Met His Gly Lys Asn Trp Ser Lys Leu Cys
65   70   75   80

Lys Asp Cys Gln Val Ile Asp Gly Arg Asn Val Thr Val Thr Asp Val
            85   90   95

Asp Ile Val Phe Ser Lys Ile Lys Gly Lys Ser Cys Arg Thr Ile Thr
            100   105   110

```
Phe Glu Gln Phe Gln Glu Ala Leu Glu Glu Leu Ala Lys Lys Arg Phe
        115             120             125

Lys Asp Lys Ser Ser Glu Glu Ala Val Arg Glu Val His Arg Leu Ile
    130             135             140

Glu Gly Lys Ala Pro Ile Ile Ser Gly Val Thr Lys Ala Ile Ser Ser
145             150             155             160

Pro Thr Val Ser Arg Leu Thr Asp Thr Thr Lys Phe Thr Gly Ser His
            165             170             175

Lys Glu Arg Phe Asp Pro Ser Gly Lys Gly Lys Gly Lys Ala Gly Arg
            180             185             190

Val Asp Leu Val Asp Glu Ser Gly Tyr Val Ser Gly Tyr Lys His Ala
        195             200             205

Gly Thr Tyr Asp Gln Lys Val Gln Gly Gly Lys
    210             215
```

```
<210>  129
<211>  384
<212>  PRT
<213>  Human

<400>  129
```

```
Met Asp Cys Ser Asn Gly Ser Ala Glu Cys Thr Gly Glu Gly Gly Ser
1               5               10              15

Lys Glu Val Val Gly Thr Phe Lys Ala Lys Asp Leu Ile Val Thr Pro
            20              25              30

Ala Thr Ile Leu Lys Glu Lys Pro Asp Pro Asn Asn Leu Val Phe Gly
        35              40              45

Thr Val Phe Thr Asp His Met Leu Thr Val Glu Trp Ser Ser Glu Phe
    50              55              60

Gly Trp Glu Lys Pro His Ile Lys Pro Leu Gln Asn Leu Ser Leu His
65              70              75              80

Pro Gly Ser Ser Ala Leu His Tyr Ala Val Glu Leu Phe Glu Gly Leu
            85              90              95
```

```
Lys Ala Phe Arg Gly Val Asp Asn Lys Ile Arg Leu Phe Gln Pro Asn
        100             105             110

Leu Asn Met Asp Arg Met Tyr Arg Ser Ala Val Arg Ala Thr Leu Pro
        115             120             125

Val Phe Asp Lys Glu Glu Leu Leu Glu Cys Ile Gln Gln Leu Val Lys
    130             135             140

Leu Asp Gln Glu Trp Val Pro Tyr Ser Thr Ser Ala Ser Leu Tyr Ile
145             150             155             160

Arg Pro Ala Phe Ile Gly Thr Glu Pro Ser Leu Gly Val Lys Lys Pro
                165             170             175

Thr Lys Ala Leu Leu Phe Val Leu Leu Ser Pro Val Gly Pro Tyr Phe
            180             185   .         190

Ser Ser Gly Thr Phe Asn Pro Val Ser Leu Trp Ala Asn Pro Lys Tyr
        195             200             205

Val Arg Ala Trp Lys Gly Gly Thr Gly Asp Cys Lys Met Gly Gly Asn
210             215             220

Tyr Gly Ser Ser Leu Phe Ala Gln Cys Glu Asp Val Asp Asn Gly Cys
225             230             235             240

Gln Gln Val Leu Trp Leu Tyr Gly Arg Asp His Gln Ile Thr Glu Val
            245             250             255

Gly Thr Met Asn Leu Phe Leu Tyr Trp Ile Asn Glu Asp Gly Glu Glu
        260             265             270

Glu Leu Ala Thr Pro Pro Leu Asp Gly Ile Ile Leu Pro Gly Val Thr
    275             280             285

Arg Arg Cys Ile Leu Asp Leu Ala His Gln Trp Gly Glu Phe Lys Val
    290             295             300

Ser Glu Arg Tyr Leu Thr Met Asp Asp Leu Thr Thr Ala Leu Glu Gly
305             310             315             320

Asn Arg Val Arg Glu Met Phe Ser Ser Gly Thr Ala Cys Val Val Cys
```

```
                325                    330                    335

Pro Val Ser Asp Ile Leu Tyr Lys Gly Glu Thr Ile His Ile Pro Thr
            340              345              350

Met Glu Asn Gly Pro Lys Leu Ala Ser Arg Ile Leu Ser Lys Leu Thr
            355              360              365

Asp Ile Gln Tyr Gly Arg Glu Glu Ser Asp Trp Thr Ile Val Leu Ser
        370              375              380
```

<210> 130
<211> 158
<212> PRT
<213> Human

<400> 130

```
Met Ser His Gly Lys Gly Thr Asp Met Leu Pro Glu Ile Ala Ala Ala
1               5               10              15

Val Gly Phe Leu Ser Ser Leu Leu Arg Thr Arg Gly Cys Val Ser Glu
            20              25              30

Gln Arg Leu Lys Val Phe Ser Gly Ala Leu Gln Glu Ala Leu Thr Glu
        35              40              45

His Tyr Lys His His Trp Phe Pro Glu Lys Pro Ser Lys Gly Ser Gly
    50              55              60

Tyr Arg Cys Ile Arg Ile Asn His Lys Met Asp Pro Ile Ile Ser Arg
65              70              75              80

Val Ala Ser Gln Ile Gly Leu Ser Gln Pro Gln Leu His Gln Leu Leu
            85              90              95

Pro Ser Glu Leu Thr Leu Trp Val Asp Pro Tyr Glu Val Ser Tyr Arg
            100             105             110

Ile Gly Glu Asp Gly Ser Ile Cys Val Leu Tyr Glu Glu Ala Pro Leu
        115             120             125

Ala Ala Ser Cys Gly Leu Leu Thr Cys Lys Asn Gln Val Leu Leu Gly
    130             135             140

Arg Ser Ser Pro Ser Lys Asn Tyr Val Met Ala Val Ser Ser
```

145   150   155

<210> 131
<211> 344
<212> PRT
<213> Human

<400> 131

Met Gly Pro Pro Ser Ala Pro Pro Cys Arg Leu His Val Pro Trp Lys
1   5   10   15

Glu Val Leu Leu Thr Ala Ser Leu Leu Thr Phe Trp Asn Pro Pro Thr
            20   25   30

Thr Ala Lys Leu Thr Ile Glu Ser Thr Pro Phe Asn Val Ala Glu Gly
        35   40   45

Lys Glu Val Leu Leu Leu Ala His Asn Leu Pro Gln Asn Arg Ile Gly
    50   55   60

Tyr Ser Trp Tyr Lys Gly Glu Arg Val Asp Gly Asn Ser Leu Ile Val
65   70   75   80

Gly Tyr Val Ile Gly Thr Gln Gln Ala Thr Pro Gly Pro Ala Tyr Ser
                85   90   95

Gly Arg Glu Thr Ile Tyr Pro Asn Ala Ser Leu Leu Ile Gln Asn Val
            100   105   110

Thr Gln Asn Asp Thr Gly Phe Tyr Thr Leu Gln Val Ile Lys Ser Asp
        115   120   125

Leu Val Asn Glu Glu Ala Thr Gly Gln Phe His Val Tyr Pro Glu Leu
    130   135   140

Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Asn Pro Val Glu Asp Lys
145   150   155   160

Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Val Gln Asn Thr Thr Tyr
                165   170   175

Leu Trp Trp Val Asn Gly Gln Ser Leu Pro Val Ser Pro Arg Leu Gln
                180   185   190

Leu Ser Asn Gly Asn Met Thr Leu Thr Leu Leu Ser Val Lys Arg Asn

```
              195                    200                    205

        Asp Ala Gly Ser Tyr Glu Cys Glu Ile Gln Asn Pro Ala Ser Ala Asn
            210                 215                 220

        Arg Ser Asp Pro Val Thr Leu Asn Val Leu Tyr Gly Pro Asp Val Pro
        225                 230                 235                 240

        Thr Ile Ser Pro Ser Lys Ala Asn Tyr Arg Pro Gly Glu Asn Leu Asn
                        245                 250                 255

        Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Phe
                    260                 265                 270

        Ile Asn Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe Ile Pro Asn
                    275                 280                 285

        Ile Thr Val Asn Asn Ser Gly Ser Tyr Met Cys Gln Ala His Asn Ser
            290                 295                 300

        Ala Thr Gly Leu Asn Arg Thr Thr Val Thr Met Ile Thr Val Ser Gly
        305                 310                 315                 320

        Ser Ala Pro Val Leu Ser Ala Val Ala Thr Val Gly Ile Thr Ile Gly
                        325                 330                 335

        Val Leu Ala Arg Val Ala Leu Ile
                    340
```

<210> 132
<211> 479
<212> PRT
<213> Human

<400> 132

```
        Met Lys Ser Gln Gly Gln His Trp Tyr Ser Ser Asp Lys Asn Cys
        1               5               10                  15

        Lys Val Ser Phe Arg Glu Lys Leu Leu Ile Ile Asp Ser Asn Leu Gly
                    20                  25                  30

        Val Gln Asp Val Glu Asn Leu Lys Phe Leu Cys Ile Gly Leu Val Pro
                35                  40                  45

        Asn Lys Lys Leu Glu Lys Ser Ser Ser Ala Ser Asp Val Phe Glu His
```

```
          50                    55                        60
```

```
Leu Leu Ala Glu Asp Leu Leu Ser Glu Glu Asp Pro Phe Phe Leu Ala
65                  70                  75                  80
```

```
Glu Leu Leu Tyr Ile Ile Arg Gln Lys Lys Leu Leu Gln His Leu Asn
                85                  90                  95
```

```
Cys Thr Lys Glu Glu Val Glu Arg Leu Leu Pro Thr Arg Gln Arg Val
            100                 105                 110
```

```
Ser Leu Phe Arg Asn Leu Leu Tyr Glu Leu Ser Glu Gly Ile Asp Ser
        115                 120                 125
```

```
Glu Asn Leu Lys Asp Met Ile Phe Leu Leu Lys Asp Ser Leu Pro Lys
    130                 135                 140
```

```
Thr Glu Met Thr Ser Leu Ser Phe Leu Ala Phe Leu Glu Lys Gln Gly
145                 150                 155                 160
```

```
Lys Ile Asp Glu Asp Asn Leu Thr Cys Leu Glu Asp Leu Cys Lys Thr
            165                 170                 175
```

```
Val Val Pro Lys Leu Leu Arg Asn Ile Glu Lys Tyr Lys Arg Glu Lys
        180                 185                 190
```

```
Ala Ile Gln Ile Val Thr Pro Pro Val Asp Lys Glu Ala Glu Ser Tyr
    195                 200                 205
```

```
Gln Gly Glu Glu Glu Leu Val Ser Gln Thr Asp Val Lys Thr Phe Leu
210                 215                 220
```

```
Glu Ala Leu Pro Arg Ala Ala Val Tyr Arg Met Asn Arg Asn His Arg
225                 230                 235                 240
```

```
Gly Leu Cys Val Ile Val Asn Asn His Ser Phe Thr Ser Leu Lys Asp
            245                 250                 255
```

```
Arg Gln Gly Thr His Lys Asp Ala Glu Ile Leu Ser His Val Phe Gln
        260                 265                 270
```

```
Trp Leu Gly Phe Thr Val His Ile His Asn Asn Val Thr Lys Val Glu
    275                 280                 285
```

```
Met Glu Met Val Leu Gln Lys Gln Lys Cys Asn Pro Ala His Ala Asp
    290             295             300

Gly Asp Cys Phe Val Phe Cys Ile Leu Thr His Gly Arg Phe Gly Ala
305             310             315             320

Val Tyr Ser Ser Asp Glu Ala Leu Ile Pro Ile Arg Glu Ile Met Ser
                325             330             335

His Phe Thr Ala Leu Gln Cys Pro Arg Leu Ala Glu Lys Pro Lys Leu
            340             345             350

Phe Phe Ile Gln Ala Cys Gln Gly Glu Glu Ile Gln Pro Ser Val Ser
        355             360             365

Ile Glu Ala Asp Ala Leu Asn Pro Glu Gln Ala Pro Thr Ser Leu Gln
    370             375             380

Asp Ser Ile Pro Ala Glu Ala Asp Phe Leu Leu Gly Leu Ala Thr Val
385             390             395             400

Pro Gly Tyr Val Ser Phe Arg His Val Glu Glu Gly Ser Trp Tyr Ile
            405             410             415

Gln Ser Leu Cys Asn His Leu Lys Lys Leu Val Pro Arg His Glu Asp
        420             425             430

Ile Leu Ser Ile Leu Thr Ala Val Asn Asp Asp Val Ser Arg Arg Val
    435             440             445

Asp Lys Gln Gly Thr Lys Lys Gln Met Pro Gln Pro Ala Phe Thr Leu
    450             455             460

Arg Lys Lys Leu Val Phe Pro Val Pro Leu Asp Ala Leu Ser Ile
465             470             475
```

<210> 133
<211> 509
<212> PRT
<213> Human

<400> 133

```
Met Thr Val Glu Gly Arg Leu Leu Val Pro Asp Arg Ile Asn Gly Thr
1               5               10              15
```

Ala Asn Lys Met Asn Gly Ala Leu Asp His Ser Asp Gln Pro Asp Pro
              20   25   30

Asp Ala Ile Lys Met Phe Val Gly Gln Ile Pro Arg Ser Trp Ser Glu
              35   40   45

Lys Glu Leu Lys Glu Leu Phe Glu Pro Tyr Gly Ala Val Tyr Gln Ile
      50   55   60

Asn Val Leu Arg Asp Arg Ser Gln Asn Pro Pro Gln Ser Lys Gly Cys
65   70   75   80

Cys Phe Val Thr Phe Tyr Thr Arg Lys Ala Ala Leu Glu Ala Gln Asn
              85   90   95

Ala Leu His Asn Ile Lys Thr Leu Pro Gly Met His His Pro Ile Gln
          100   105   110

Met Lys Pro Ala Asp Ser Glu Lys Ser Asn Ala Val Glu Asp Arg Lys
      115   120   125

Leu Phe Ile Gly Met Val Ser Lys Lys Cys Asn Glu Asn Asp Ile Arg
      130   135   140

Val Met Phe Ser Pro Phe Gly Gln Ile Glu Glu Cys Arg Ile Leu Arg
145   150   155   160

Gly Pro Asp Gly Leu Ser Arg Gly Cys Ala Phe Val Thr Phe Ser Thr
              165   170   175

Arg Ala Met Ala Gln Asn Ala Ile Lys Ala Met His Gln Ser Gln Thr
              180   185   190

Met Glu Gly Cys Ser Ser Pro Ile Val Val Lys Phe Ala Asp Thr Gln
      195   200   205

Lys Asp Lys Glu Gln Arg Arg Leu Gln Gln Gln Leu Ala Gln Gln Met
      210   215   220

Gln Gln Leu Asn Thr Ala Thr Trp Gly Asn Leu Thr Gly Leu Gly Gly
225   230   235   240

Leu Thr Pro Gln Tyr Leu Ala Leu Leu Gln Gln Ala Thr Ser Ser Ser
              245   250   255 .

Asn Leu Gly Ala Phe Ser Gly Ile Gln Gln Met Ala Gly Met Asn Ala
        260   265   270

Leu Gln Leu Gln Asn Leu Ala Thr Leu Ala Ala Ala Ala Ala Ala Ala
        275   280   285

Gln Thr Ser Ala Thr Ser Thr Asn Ala Asn Pro Leu Ser Thr Thr Ser
    290   295   300

Ser Ala Leu Gly Ala Leu Thr Ser Pro Val Ala Ala Ser Thr Pro Asn
305   310   315   320

Ser Thr Ala Gly Ala Ala Met Asn Ser Leu Thr Ser Leu Gly Thr Leu
        325   330   335

Gln Gly Leu Ala Gly Ala Thr Val Gly Leu Asn Asn Ile Asn Ala Leu
        340   345   350

Ala Val Ala Gln Met Leu Ser Gly Met Ala Ala Leu Asn Gly Gly Leu
        355   360   365

Gly Ala Thr Gly Leu Thr Asn Gly Thr Ala Gly Thr Met Asp Ala Leu
370   375   380

Thr Gln Ala Tyr Ser Gly Ile Gln Gln Tyr Ala Ala Ala Ala Leu Pro
385   390   395   400

Thr Leu Tyr Ser Gln Ser Leu Leu Gln Gln Gln Ser Ala Ala Gly Ser
            405   410   415

Gln Lys Glu Gly Pro Glu Gly Ala Asn Leu Phe Ile Tyr His Leu Pro
        420   425   430

Gln Glu Phe Gly Asp Gln His Ile Leu Gln Met Phe Met Pro Phe Gly
        435   440   445

Asn Val Ile Ser Ala Lys Val Phe Ile Asp Lys Gln Thr Asn Leu Ser
    450   455   460

Lys Cys Phe Gly Phe Val Ser Tyr Asp Asn Pro Val Ser Ala Gln Ala
465   470   475   480

Ala Ile Gln Ala Met Asn Gly Phe Gln Ile Gly Met Lys Arg Leu Lys
            485   490   495

Val Gln Leu Lys Arg Ser Lys Asn Asp Ser Lys Pro Tyr
                500   505

<210>   134
<211>   141
<212>   PRT
<213>   Human

<400>   134

Met Ala Arg Pro Leu Cys Thr Leu Leu Leu Met Ala Thr Leu Ala
1   5   10   15

Gly Ala Leu Ala Ser Ser Ser Lys Glu Glu Asn Arg Ile Ile Pro Gly
                20   25   30

Gly Ile Tyr Asp Ala Asp Leu Asn Asp Glu Trp Val Gln Arg Ala Leu
            35   40   45

His Phe Ala Ile Ser Glu Tyr Asn Lys Ala Thr Glu Asp Glu Tyr Tyr
        50   55   60

Arg Arg Pro Leu Gln Val Leu Arg Ala Arg Glu Gln Thr Phe Gly Gly
65   70   75   80

Val Asn Tyr Phe Phe Asp Val Glu Val Gly Arg Thr Ile Cys Thr Lys
                85   90   95

Ser Gln Pro Asn Leu Asp Thr Cys Ala Phe His Glu Gln Pro Glu Leu
            100   105   110

Gln Lys Lys Gln Leu Cys Ser Phe Glu Ile Tyr Glu Val Pro Trp Glu
        115   120   125

Asp Arg Met Ser Leu Val Asn Ser Arg Cys Gln Glu Ala
        130   135   140

<210>   135
<211>   1480
<212>   PRT
<213>   Human

<400>   135

Met Gln Arg Ser Pro Leu Glu Lys Ala Ser Val Val Ser Lys Leu Phe
1   5   10   15

```
Phe Ser Trp Thr Arg Pro Ile Leu Arg Lys Gly Tyr Arg Gln Arg Leu
        20          25              30

Glu Leu Ser Asp Ile Tyr Gln Ile Pro Ser Val Asp Ser Ala Asp Asn
        35          40              45

Leu Ser Glu Lys Leu Glu Arg Glu Trp Asp Arg Glu Leu Ala Ser Lys
    50          55              60

Lys Asn Pro Lys Leu Ile Asn Ala Leu Arg Arg Cys Phe Phe Trp Arg
65              70              75              80

Phe Met Phe Tyr Gly Ile Phe Leu Tyr Leu Gly Glu Val Thr Lys Ala
            85              90              95

Val Gln Pro Leu Leu Leu Gly Arg Ile Ile Ala Ser Tyr Asp Pro Asp
        100             105             110

Asn Lys Glu Glu Arg Ser Ile Ala Ile Tyr Leu Gly Ile Gly Leu Cys
        115             120             125

Leu Leu Phe Ile Val Arg Thr Leu Leu Leu His Pro Ala Ile Phe Gly
    130             135             140

Leu His His Ile Gly Met Gln Met Arg Ile Ala Met Phe Ser Leu Ile
145             150             155             160

Tyr Lys Lys Thr Leu Lys Leu Ser Ser Arg Val Leu Asp Lys Ile Ser
            165             170             175

Ile Gly Gln Leu Val Ser Leu Leu Ser Asn Asn Leu Asn Lys Phe Asp
            180             185             190

Glu Gly Leu Ala Leu Ala His Phe Val Trp Ile Ala Pro Leu Gln Val
        195             200             205

Ala Leu Leu Met Gly Leu Ile Trp Glu Leu Leu Gln Ala Ser Ala Phe
    210             215             220

Cys Gly Leu Gly Phe Leu Ile Val Leu Ala Leu Phe Gln Ala Gly Leu
225             230             235             240

Gly Arg Met Met Met Lys Tyr Arg Asp Gln Arg Ala Gly Lys Ile Ser
            245             250             255
```

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```
Glu Arg Leu Val Ile Thr Ser Glu Met Ile Glu Asn Ile Gln Ser Val
            260             265             270

Lys Ala Tyr Cys Trp Glu Glu Ala Met Glu Lys Met Ile Glu Asn Leu
        275             280             285

Arg Gln Thr Glu Leu Lys Leu Thr Arg Lys Ala Ala Tyr Val Arg Tyr
    290             295             300

Phe Asn Ser Ser Ala Phe Phe Phe Ser Gly Phe Phe Val Val Phe Leu
305             310             315             320

Ser Val Leu Pro Tyr Ala Leu Ile Lys Gly Ile Ile Leu Arg Lys Ile
            325             330             335

Phe Thr Thr Ile Ser Phe Cys Ile Val Leu Arg Met Ala Val Thr Arg
            340             345             350

Gln Phe Pro Trp Ala Val Gln Thr Trp Tyr Asp Ser Leu Gly Ala Ile
        355             360             365

Asn Lys Ile Gln Asp Phe Leu Gln Lys Gln Glu Tyr Lys Thr Leu Glu
370             375             380

Tyr Asn Leu Thr Thr Thr Glu Val Val Met Glu Asn Val Thr Ala Phe
385             390             395             400

Trp Glu Glu Gly Phe Gly Glu Leu Phe Glu Lys Ala Lys Gln Asn Asn
            405             410             415

Asn Asn Arg Lys Thr Ser Asn Gly Asp Asp Ser Leu Phe Phe Ser Asn
            420             425             430

Phe Ser Leu Leu Gly Thr Pro Val Leu Lys Asp Ile Asn Phe Lys Ile
        435             440             445

Glu Arg Gly Gln Leu Leu Ala Val Ala Gly Ser Thr Gly Ala Gly Lys
    450             455             460

Thr Ser Leu Leu Met Met Ile Met Gly Glu Leu Glu Pro Ser Glu Gly
465             470             475             480

Lys Ile Lys His Ser Gly Arg Ile Ser Phe Cys Ser Gln Phe Ser Trp
```

```
              485                      490                      495

Ile Met Pro Gly Thr Ile Lys Glu Asn Ile Ile Phe Gly Val Ser Tyr
            500                      505              510

Asp Glu Tyr Arg Tyr Arg Ser Val Ile Lys Ala Cys Gln Leu Glu Glu
            515              520                      525

Asp Ile Ser Lys Phe Ala Glu Lys Asp Asn Ile Val Leu Gly Glu Gly
        530              535                  540

Gly Ile Thr Leu Ser Gly Gly Gln Arg Ala Arg Ile Ser Leu Ala Arg
545                      550              555                  560

Ala Val Tyr Lys Asp Ala Asp Leu Tyr Leu Leu Asp Ser Pro Phe Gly
                565                  570                  575

Tyr Leu Asp Val Leu Thr Glu Lys Glu Ile Phe Glu Ser Cys Val Cys
            580                  585              590

Lys Leu Met Ala Asn Lys Thr Arg Ile Leu Val Thr Ser Lys Met Glu
        595                  600                  605

His Leu Lys Lys Ala Asp Lys Ile Leu Ile Leu Asn Glu Gly Ser Ser
    610                  615                  620

Tyr Phe Tyr Gly Thr Phe Ser Glu Leu Gln Asn Leu Gln Pro Asp Phe
625                  630                  635                  640

Ser Ser Lys Leu Met Gly Cys Asp Ser Phe Asp Gln Phe Ser Ala Glu
                645                  650                  655

Arg Arg Asn Ser Ile Leu Thr Glu Thr Leu His Arg Phe Ser Leu Glu
                660                  665                  670

Gly Asp Ala Pro Val Ser Trp Thr Glu Thr Lys Lys Gln Ser Phe Lys
            675                  680                  685

Gln Thr Gly Glu Phe Gly Glu Lys Arg Lys Asn Ser Ile Leu Asn Pro
    690                  695                  700

Ile Asn Ser Ile Arg Lys Phe Ser Ile Val Gln Lys Thr Pro Leu Gln
705                  710                  715                  720
```

```
Met Asn Gly Ile Glu Glu Asp Ser Asp Glu Pro Leu Glu Arg Arg Leu
              725               730               735

Ser Leu Val Pro Asp Ser Glu Gln Gly Glu Ala Ile Leu Pro Arg Ile
              740               745               750

Ser Val Ile Ser Thr Gly Pro Thr Leu Gln Ala Arg Arg Arg Gln Ser
              755               760               765

Val Leu Asn Leu Met Thr His Ser Val Asn Gln Gly Gln Asn Ile His
    770               775               780

Arg Lys Thr Thr Ala Ser Thr Arg Lys Val Ser Leu Ala Pro Gln Ala
785               790               795               800

Asn Leu Thr Glu Leu Asp Ile Tyr Ser Arg Arg Leu Ser Gln Glu Thr
              805               810               815

Gly Leu Glu Ile Ser Glu Glu Ile Asn Glu Glu Asp Leu Lys Glu Cys
              820               825               830

Leu Phe Asp Asp Met Glu Ser Ile Pro Ala Val Thr Thr Trp Asn Thr
              835               840               845

Tyr Leu Arg Tyr Ile Thr Val His Lys Ser Leu Ile Phe Val Leu Ile
    850               855               860

Trp Cys Leu Val Ile Phe Leu Ala Glu Val Ala Ala Ser Leu Val Val
865               870               875               880

Leu Trp Leu Leu Gly Asn Thr Pro Leu Gln Asp Lys Gly Asn Ser Thr
              885               890               895

His Ser Arg Asn Asn Ser Tyr Ala Val Ile Ile Thr Ser Thr Ser Ser
              900               905               910

Tyr Tyr Val Phe Tyr Ile Tyr Val Gly Val Ala Asp Thr Leu Leu Ala
    915               920               925

Met Gly Phe Phe Arg Gly Leu Pro Leu Val His Thr Leu Ile Thr Val
    930               935               940

Ser Lys Ile Leu His His Lys Met Leu His Ser Val Leu Gln Ala Pro
945               950               955               960
```

```
Met Ser Thr Leu Asn Thr Leu Lys Ala Gly Gly Ile Leu Asn Arg Phe
                965                 970                 975

Ser Lys Asp Ile Ala Ile Leu Asp Asp Leu Leu Pro Leu Thr Ile Phe
                980                 985                 990

Asp Phe Ile Gln Leu Leu Leu Ile Val Ile Gly Ala Ile Ala Val Val
            995                 1000                1005

Ala Val Leu Gln Pro Tyr Ile Phe Val Ala Thr Val Pro Val Ile
    1010                1015                1020

Val Ala Phe Ile Met Leu Arg Ala Tyr Phe Leu Gln Thr Ser Gln
    1025                1030                1035

Gln Leu Lys Gln Leu Glu Ser Glu Gly Arg Ser Pro Ile Phe Thr
    1040                1045                1050

His Leu Val Thr Ser Leu Lys Gly Leu Trp Thr Leu Arg Ala Phe
    1055                1060                1065

Gly Arg Gln Pro Tyr Phe Glu Thr Leu Phe His Lys Ala Leu Asn
    1070                1075                1080

Leu His Thr Ala Asn Trp Phe Leu Tyr Leu Ser Thr Leu Arg Trp
    1085                1090                1095

Phe Gln Met Arg Ile Glu Met Ile Phe Val Ile Phe Phe Ile Ala
    1100                1105                1110

Val Thr Phe Ile Ser Ile Leu Thr Thr Gly Glu Gly Glu Gly Arg
    1115                1120                1125

Val Gly Ile Ile Leu Thr Leu Ala Met Asn Ile Met Ser Thr Leu
    1130                1135                1140

Gln Trp Ala Val Asn Ser Ser Ile Asp Val Asp Ser Leu Met Arg
    1145                1150                1155

Ser Val Ser Arg Val Phe Lys Phe Ile Asp Met Pro Thr Glu Gly
    1160                1165                1170

Lys Pro Thr Lys Ser Thr Lys Pro Tyr Lys Asn Gly Gln Leu Ser
    1175                1180                1185
```

```
Lys Val Met Ile Ile Glu Asn Ser His Val Lys Lys Asp Asp Ile
1190          1195              1200

Trp Pro Ser Gly Gly Gln Met Thr Val Lys Asp Leu Thr Ala Lys
1205          1210              1215

Tyr Thr Glu Gly Gly Asn Ala Ile Leu Glu Asn Ile Ser Phe Ser
1220          1225              1230

Ile Ser Pro Gly Gln Arg Val Gly Leu Leu Gly Arg Thr Gly Ser
1235          1240              1245

Gly Lys Ser Thr Leu Leu Ser Ala Phe Leu Arg Leu Leu Asn Thr
1250          1255              1260

Glu Gly Glu Ile Gln Ile Asp Gly Val Ser Trp Asp Ser Ile Thr
1265          1270              1275

Leu Gln Gln Trp Arg Lys Ala Phe Gly Val Ile Pro Gln Lys Val
1280          1285              1290

Phe Ile Phe Ser Gly Thr Phe Arg Lys Asn Leu Asp Pro Tyr Glu
1295          1300              1305

Gln Trp Ser Asp Gln Glu Ile Trp Lys Val Ala Asp Glu Val Gly
1310          1315              1320

Leu Arg Ser Val Ile Glu Gln Phe Pro Gly Lys Leu Asp Phe Val
1325          1330              1335

Leu Val Asp Gly Gly Cys Val Leu Ser His Gly His Lys Gln Leu
1340          1345              1350

Met Cys Leu Ala Arg Ser Val Leu Ser Lys Ala Lys Ile Leu Leu
1355          1360              1365

Leu Asp Glu Pro Ser Ala His Leu Asp Pro Val Thr Tyr Gln Ile
1370          1375              1380

Ile Arg Arg Thr Leu Lys Gln Ala Phe Ala Asp Cys Thr Val Ile
1385          1390              1395

Leu Cys Glu His Arg Ile Glu Ala Met Leu Glu Cys Gln Gln Phe
```

```
        1400                    1405                    1410


Leu Val Ile Glu Glu Asn Lys Val Arg Gln Tyr Asp Ser Ile Gln
        1415                    1420                    1425


Lys Leu Leu Asn Glu Arg Ser Leu Phe Arg Gln Ala Ile Ser Pro
        1430                    1435                    1440


Ser Asp Arg Val Lys Leu Phe Pro His Arg Asn Ser Ser Lys Cys
        1445                    1450                    1455


Lys Ser Lys Pro Gln Ile Ala Ala Leu Lys Glu Glu Thr Glu Glu
        1460                    1465                    1470


Glu Val Gln Asp Thr Arg Leu
        1475                    1480
```

```
<210>   136
<211>   502
<212>   PRT
<213>   Human

<400>   136
```

```
Met Leu Ala Ala Met Gly Ser Leu Ala Ala Ala Leu Trp Ala Val Val
1               5               10                  15


His Pro Arg Thr Leu Leu Leu Gly Thr Val Ala Phe Leu Leu Ala Ala
            20                  25                  30


Asp Phe Leu Lys Arg Arg Arg Pro Lys Asn Tyr Pro Pro Gly Pro Trp
            35                  40                  45


Arg Leu Pro Phe Leu Gly Asn Phe Phe Leu Val Asp Phe Glu Gln Ser
    50                  55                  60


His Leu Glu Val Gln Leu Phe Val Lys Lys Tyr Gly Asn Leu Phe Ser
65                  70                  75                  80


Leu Glu Leu Gly Asp Ile Ser Ala Val Leu Ile Thr Gly Leu Pro Leu
                85                  90                  95


Ile Lys Glu Ala Leu Ile His Met Asp Gln Asn Phe Gly Asn Arg Pro
                100                 105                 110


Val Thr Pro Met Arg Glu His Ile Phe Lys Lys Asn Gly Leu Ile Met
```

```
              115                     120                      125


     Ser Ser Gly Gln Ala Trp Lys Glu Gln Arg Arg Phe Thr Leu Thr Ala
         130                 135                 140


     Leu Arg Asn Phe Gly Leu Gly Lys Lys Ser Leu Glu Glu Arg Ile Gln
     145                 150                 155                 160


     Glu Glu Ala Gln His Leu Thr Glu Ala Ile Lys Glu Glu Asn Gly Gln
                     165                 170                 175


     Pro Phe Asp Pro His Phe Lys Ile Asn Asn Ala Val Ser Asn Ile Ile
                     180                 185                 190


     Cys Ser Ile Thr Phe Gly Glu Arg Phe Glu Tyr Gln Asp Ser Trp Phe
                 195                 200                 205


     Gln Gln Leu Leu Lys Leu Leu Asp Glu Val Thr Tyr Leu Glu Ala Ser
         210                 215                 220


     Lys Thr Cys Gln Leu Tyr Asn Val Phe Pro Trp Ile Met Lys Phe Leu
     225                 230                 235                 240


     Pro Gly Pro His Gln Thr Leu Phe Ser Asn Trp Lys Lys Leu Lys Leu
                     245                 250                 255


     Phe Val Ser His Met Ile Asp Lys His Arg Lys Asp Trp Asn Pro Ala
                 260                 265                 270


     Glu Thr Arg Asp Phe Ile Asp Ala Tyr Leu Lys Glu Met Ser Lys His
             275                 280                 285


     Thr Gly Asn Pro Thr Ser Ser Phe His Glu Glu Asn Leu Ile Cys Ser
         290                 295                 300


     Thr Leu Asp Leu Phe Phe Ala Gly Thr Glu Thr Thr Ser Thr Thr Leu
     305                 310                 315                 320


     Arg Trp Ala Leu Leu Tyr Met Ala Leu Tyr Pro Glu Ile Gln Glu Lys
                 325                 330                 335


     Val Gln Ala Glu Ile Asp Arg Val Ile Gly Gln Gly Gln Gln Pro Ser
             340                 345                 350
```

```
Thr Ala Ala Arg Glu Ser Met Pro Tyr Thr Asn Ala Val Ile His Glu
        355             360             365

Val Gln Arg Met Gly Asn Ile Ile Pro Leu Asn Val Pro Arg Glu Val
    370             375             380

Thr Val Asp Thr Thr Leu Ala Gly Tyr His Leu Pro Lys Gly Thr Met
385             390             395             400

Ile Leu Thr Asn Leu Thr Ala Leu His Arg Asp Pro Thr Glu Trp Ala
            405             410             415

Thr Pro Asp Thr Phe Asn Pro Asp His Phe Leu Glu Asn Gly Gln Phe
            420             425             430

Lys Lys Arg Glu Ala Phe Met Pro Phe Ser Ile Gly Lys Arg Ala Cys
        435             440             445

Leu Gly Glu Gln Leu Ala Arg Thr Glu Leu Phe Ile Phe Phe Thr Ser
    450             455             460

Leu Met Gln Lys Phe Thr Phe Arg Pro Pro Asn Asn Glu Lys Leu Ser
465             470             475             480

Leu Lys Phe Arg Met Gly Ile Thr Ile Ser Pro Val Ser His Arg Leu
            485             490             495

Cys Ala Val Pro Gln Val
            500


<210>  137
<211>  766
<212>  PRT
<213>  Human

<400>  137

Met Lys Thr Pro Trp Arg Val Leu Leu Gly Leu Leu Gly Ala Ala Ala
1               5               10              15

Leu Val Thr Ile Ile Thr Val Pro Val Val Leu Leu Asn Lys Gly Thr
            20              25              30

Asp Asp Ala Thr Ala Asp Ser Arg Lys Thr Tyr Thr Leu Thr Asp Tyr
        35              40              45
```

Leu Lys Asn Thr Tyr Arg Leu Lys Leu Tyr Ser Leu Arg Trp Ile Ser
    50   55   60

Asp His Glu Tyr Leu Tyr Lys Gln Glu Asn Asn Ile Leu Val Phe Asn
65   70   75   80

Ala Glu Tyr Gly Asn Ser Ser Val Phe Leu Glu Asn Ser Thr Phe Asp
            85   90   95

Glu Phe Gly His Ser Ile Asn Asp Tyr Ser Ile Ser Pro Asp Gly Gln
        100   105   110

Phe Ile Leu Leu Glu Tyr Asn Tyr Val Lys Gln Trp Arg His Ser Tyr
        115   120   125

Thr Ala Ser Tyr Asp Ile Tyr Asp Leu Asn Lys Arg Gln Leu Ile Thr
    130   135   140

Glu Glu Arg Ile Pro Asn Asn Thr Gln Trp Val Thr Trp Ser Pro Val
145   150   155   160

Gly His Lys Leu Ala Tyr Val Trp Asn Asn Asp Ile Tyr Val Lys Ile
            165   170   175

Glu Pro Asn Leu Pro Ser Tyr Arg Ile Thr Trp Thr Gly Lys Glu Asp
            180   185   190

Ile Ile Tyr Asn Gly Ile Thr Asp Trp Val Tyr Glu Glu Glu Val Phe
        195   200   205

Ser Ala Tyr Ser Ala Leu Trp Trp Ser Pro Asn Gly Thr Phe Leu Ala
    210   215   220

Tyr Ala Gln Phe Asn Asp Thr Glu Val Pro Leu Ile Glu Tyr Ser Phe
225   230   235   240

Tyr Ser Asp Glu Ser Leu Gln Tyr Pro Lys Thr Val Arg Val Pro Tyr
            245   250   255

Pro Lys Ala Gly Ala Val Asn Pro Thr Val Lys Phe Phe Val Val Asn
            260   265   270

Thr Asp Ser Leu Ser Ser Val Thr Asn Ala Thr Ser Ile Gln Ile Thr
    275   280   285

```
Ala Pro Ala Ser Met Leu Ile Gly Asp His Tyr Leu Cys Asp Val Thr
    290             295             300

Trp Ala Thr Gln Glu Arg Ile Ser Leu Gln Trp Leu Arg Arg Ile Gln
305             310             315             320

Asn Tyr Ser Val Met Asp Ile Cys Asp Tyr Asp Glu Ser Ser Gly Arg
                325             330             335

Trp Asn Cys Leu Val Ala Arg Gln His Ile Glu Met Ser Thr Thr Gly
        340             345             350

Trp Val Gly Arg Phe Arg Pro Ser Glu Pro His Phe Thr Leu Asp Gly
        355             360             365

Asn Ser Phe Tyr Lys Ile Ile Ser Asn Glu Glu Gly Tyr Arg His Ile
    370             375             380

Cys Tyr Phe Gln Ile Asp Lys Lys Asp Cys Thr Phe Ile Thr Lys Gly
385             390             395             400

Thr Trp Glu Val Ile Gly Ile Glu Ala Leu Thr Ser Asp Tyr Leu Tyr
                405             410             415

Tyr Ile Ser Asn Glu Tyr Lys Gly Met Pro Gly Gly Arg Asn Leu Tyr
        420             425             430

Lys Ile Gln Leu Ser Asp Tyr Thr Lys Val Thr Cys Leu Ser Cys Glu
        435             440             445

Leu Asn Pro Glu Arg Cys Gln Tyr Tyr Ser Val Ser Phe Ser Lys Glu
    450             455             460

Ala Lys Tyr Tyr Gln Leu Arg Cys Ser Gly Pro Gly Leu Pro Leu Tyr
465             470             475             480

Thr Leu His Ser Ser Val Asn Asp Lys Gly Leu Arg Val Leu Glu Asp
                485             490             495

Asn Ser Ala Leu Asp Lys Met Leu Gln Asn Val Gln Met Pro Ser Lys
        500             505             510

Lys Leu Asp Phe Ile Ile Leu Asn Glu Thr Lys Phe Trp Tyr Gln Met
        515             520             525
```

```
Ile Leu Pro Pro His Phe Asp Lys Ser Lys Lys Tyr Pro Leu Leu Leu
    530             535             540

Asp Val Tyr Ala Gly Pro Cys Ser Gln Lys Ala Asp Ile Val Phe Arg
545             550             555             560

Leu Asn Trp Ala Thr Tyr Leu Ala Ser Thr Glu Asn Ile Ile Val Ala
            565             570             575

Ser Phe Asp Gly Arg Gly Ser Gly Tyr Gln Gly Asp Lys Ile Met His
        580             585             590

Ala Ile Asn Arg Arg Leu Gly Thr Phe Glu Val Glu Asp Gln Ile Glu
        595             600             605

Ala Ala Arg Gln Phe Ser Lys Met Gly Phe Val Asp Asn Lys Arg Ile
    610             615             620

Ala Ile Trp Gly Trp Ser Tyr Gly Gly Tyr Val Thr Ser Met Val Leu
625             630             635             640

Gly Ser Gly Ser Gly Val Phe Lys Cys Gly Ile Ala Val Ala Pro Val
            645             650             655

Ser Arg Trp Glu Tyr Tyr Glu Ser Val Tyr Thr Glu Arg Tyr Met Gly
            660             665             670

Leu Pro Thr Pro Glu Asp Asn Leu Asp His Tyr Arg Asn Ser Thr Val
        675             680             685

Met Ser Arg Ala Glu Asn Phe Lys Gln Val Glu Tyr Leu Leu Ile His
    690             695             700

Gly Thr Ala Asp Asp Asn Val His Phe Gln Gln Ser Ala Gln Ile Ser
705             710             715             720

Lys Ala Leu Val Asp Val Gly Val Asp Phe Gln Ala Met Trp Tyr Thr
            725             730             735

Asp Glu Asp His Gly Ile Ala Ser Ser Thr Ala His Gln His Ile Tyr
            740             745             750

Thr His Met Ser His Phe Ile Lys Gln Cys Phe Ser Leu Pro
```

755   760   765

<210> 138
<211> 984
<212> PRT
<213> Human

<400> 138

Met Glu Arg Arg Trp Pro Leu Gly Leu Gly Leu Val Leu Leu Cys
1   5   10   15

Ala Pro Leu Pro Pro Gly Ala Arg Ala Lys Glu Val Thr Leu Met Asp
        20   25   30

Thr Ser Lys Ala Gln Gly Glu Leu Gly Trp Leu Leu Asp Pro Pro Lys
        35   40   45

Asp Gly Trp Ser Glu Gln Gln Gln Ile Leu Asn Gly Thr Pro Leu Tyr
        50   55   60

Met Tyr Gln Asp Cys Pro Met Gln Gly Arg Arg Asp Thr Asp His Trp
65   70   75   80

Leu Arg Ser Asn Trp Ile Tyr Arg Gly Glu Glu Ala Ser Arg Val His
                85   90   95

Val Glu Leu Gln Phe Thr Val Arg Asp Cys Lys Ser Phe Pro Gly Gly
        100   105   110

Ala Gly Pro Leu Gly Cys Lys Glu Thr Phe Asn Leu Leu Tyr Met Glu
        115   120   125

Ser Asp Gln Asp Val Gly Ile Gln Leu Arg Arg Pro Leu Phe Gln Lys
    130   135   140

Val Thr Thr Val Ala Ala Asp Gln Ser Phe Thr Ile Arg Asp Leu Ala
145   150   155   160

Ser Gly Ser Val Lys Leu Asn Val Glu Arg Cys Ser Leu Gly Arg Leu
                165   170   175

Thr Arg Arg Gly Leu Tyr Leu Ala Phe His Asn Pro Gly Ala Cys Val
        180   185   190

Ala Leu Val Ser Val Arg Val Phe Tyr Gln Arg Cys Pro Glu Thr Leu

                    195   200   205

    Asn Gly Leu Ala Gln Phe Pro Asp Thr Leu Pro Gly Pro Ala Gly Leu
        210   215   220

    Val Glu Val Ala Gly Thr Cys Leu Pro His Ala Arg Ala Ser Pro Arg
    225   230   235   240

    Pro Ser Gly Ala Pro Arg Met His Cys Ser Pro Asp Gly Glu Trp Leu
                    245   250   255

    Val Pro Val Gly Arg Cys His Cys Glu Pro Gly Tyr Glu Glu Gly Gly
                    260   265   270

    Ser Gly Glu Ala Cys Val Ala Cys Pro Ser Gly Ser Tyr Arg Met Asp
            275   280   285

    Met Asp Thr Pro His Cys Leu Thr Cys Pro Gln Gln Ser Thr Ala Glu
        290   295   300

    Ser Glu Gly Ala Thr Ile Cys Thr Cys Glu Ser Gly His Tyr Arg Ala
    305   310   315   320

    Pro Gly Glu Gly Pro Gln Val Ala Cys Thr Gly Pro Pro Ser Ala Pro
                    325   330   335

    Arg Asn Leu Ser Phe Ser Ala Ser Gly Thr Gln Leu Ser Leu Arg Trp
                340   345   350

    Glu Pro Pro Ala Asp Thr Gly Gly Arg Gln Asp Val Arg Tyr Ser Val
            355   360   365

    Arg Cys Ser Gln Cys Gln Gly Thr Ala Gln Asp Gly Gly Pro Cys Gln
        370   375   380

    Pro Cys Gly Val Gly Val His Phe Ser Pro Gly Ala Arg Ala Leu Thr
    385   390   395   400

    Thr Pro Ala Val His Val Asn Gly Leu Glu Pro Tyr Ala Asn Tyr Thr
                    405   410   415

    Phe Asn Val Glu Ala Gln Asn Gly Val Ser Gly Leu Gly Ser Ser Gly
            420   425   430

```
His Ala Ser Thr Ser Val Ser Ile Ser Met Gly His Ala Glu Ser Leu
        435         440             445

Ser Gly Leu Ser Leu Arg Leu Val Lys Lys Glu Pro Arg Gln Leu Glu
    450             455             460

Leu Thr Trp Ala Gly Ser Arg Pro Arg Ser Pro Gly Ala Asn Leu Thr
465             470             475                 480

Tyr Glu Leu His Val Leu Asn Gln Asp Glu Glu Arg Tyr Gln Met Val
            485             490             495

Leu Glu Pro Arg Val Leu Leu Thr Glu Leu Gln Pro Asp Thr Thr Tyr
        500             505             510

Ile Val Arg Val Arg Met Leu Thr Pro Leu Gly Pro Gly Pro Phe Ser
        515             520             525

Pro Asp His Glu Phe Arg Thr Ser Pro Pro Val Ser Arg Gly Leu Thr
    530             535             540

Gly Gly Glu Ile Val Ala Val Ile Phe Gly Leu Leu Leu Gly Ala Ala
545             550             555             560

Leu Leu Leu Gly Ile Leu Val Phe Arg Ser Arg Arg Ala Gln Arg Gln
            565             570             575

Arg Gln Gln Arg His Val Thr Ala Pro Pro Met Trp Ile Glu Arg Thr
        580             585             590

Ser Cys Ala Glu Ala Leu Cys Gly Thr Ser Arg His Thr Arg Thr Leu
    595             600             605

His Arg Glu Pro Trp Thr Leu Pro Gly Gly Trp Ser Asn Phe Pro Ser
    610             615             620

Arg Glu Leu Asp Pro Ala Trp Leu Met Val Asp Thr Val Ile Gly Glu
625             630             635                 640

Gly Glu Phe Gly Glu Val Tyr Arg Gly Thr Leu Arg Leu Pro Ser Gln
            645             650             655

Asp Cys Lys Thr Val Ala Ile Lys Thr Leu Lys Asp Thr Ser Pro Gly
        660             665             670
```

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Gly Gln Trp Trp Asn Phe Leu Arg Glu Ala Thr Ile Met Gly Gln Phe
        675   680   685

Ser His Pro His Ile Leu His Leu Glu Gly Val Val Thr Lys Arg Lys
        690   695   700

Pro Ile Met Ile Ile Thr Glu Phe Met Glu Asn Ala Ala Leu Asp Ala
705   710   715   720

Phe Leu Arg Glu Arg Glu Asp Gln Leu Val Pro Gly Gln Leu Val Ala
            725   730   735

Met Leu Gln Gly Ile Ala Ser Gly Met Asn Tyr Leu Ser Asn His Asn
            740   745   750

Tyr Val His Arg Asp Leu Ala Ala Arg Asn Ile Leu Val Asn Gln Asn
        755   760   765

Leu Cys Cys Lys Val Ser Asp Phe Gly Leu Thr Arg Leu Leu Asp Asp
    770   775   780

Phe Asp Gly Thr Tyr Glu Thr Gln Gly Gly Lys Ile Pro Ile Arg Trp
785   790   795   800

Thr Ala Pro Glu Ala Ile Ala His Arg Ile Phe Thr Thr Ala Ser Asp
            805   810   815

Val Trp Ser Phe Gly Ile Val Met Trp Glu Val Leu Ser Phe Gly Asp
            820   825   830

Lys Pro Tyr Gly Glu Met Ser Asn Gln Glu Val Met Lys Ser Ile Glu
        835   840   845

Asp Gly Tyr Arg Leu Pro Pro Pro Val Asp Cys Pro Ala Pro Leu Tyr
    850   855   860

Glu Leu Met Lys Asn Cys Trp Ala Tyr Asp Arg Ala Arg Arg Pro His
865   870   875   880

Phe Gln Lys Leu Gln Ala His Leu Glu Gln Leu Leu Ala Asn Pro His
            885   890   895

Ser Leu Arg Thr Ile Ala Asn Phe Asp Pro Arg Val Thr Leu Arg Leu
        900   905   910

Pro Ser Leu Ser Gly Ser Asp Gly Ile Pro Tyr Arg Thr Val Ser Glu
        915   920   925

Trp Leu Glu Ser Ile Arg Met Lys Arg Tyr Ile Leu His Phe His Ser
    930   935   940

Ala Gly Leu Asp Thr Met Glu Cys Val Leu Glu Leu Thr Ala Glu Asp
945   950   955   960

Leu Thr Gln Met Gly Ile Thr Leu Pro Gly His Gln Lys Arg Ile Leu
            965   970   975

Cys Ser Ile Gln Gly Phe Lys Asp
            980

<210> 139
<211> 822
<212> PRT
<213> Human

<400> 139

Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala
1   5   10   15

Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr
            20   25   30

Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu
        35   40   45

Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu
    50   55   60

Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly
65   70   75   80

Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly
            85   90   95

Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr
        100   105   110

Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile
        115   120   125

Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val
    130   135   140

Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu
145   150   155   160

Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys
                165   170   175

Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu
            180   185   190

Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys
        195   200   205

Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser
    210   215   220

Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile
225   230   235   240

Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro
            245   250   255

Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly
        260   265   270

Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile
    275   280   285

Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp
    290   295   300

Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser
305   310   315   320

Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly
            325   330   335

Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser
            340   345   350

Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys

                355   360   365

Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile
    370   375   380

Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg
385   390   395   400

Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val
            405   410   415

His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser
            420   425   430

Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile
        435   440   445

Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val
    450   455   460

Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp
465   470   475   480

Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val
            485   490   495

Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala
        500   505   510

Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp
    515   520   525

Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys
    530   535   540

His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro
545   550   555   560

Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr
            565   570   575

Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn
        580   585   590

```
Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr
        595             600             605

Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile
    610             615             620

His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val
625             630             635             640

Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp
            645             650             655

Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala
        660             665             670

Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp
    675             680             685

Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro
    690             695             700

Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly
705             710             715             720

His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met
            725             730             735

Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys
            740             745             750

Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu
        755             760             765

Glu Tyr Leu Asp Leu Ser Gln Pro Leu Glu Gln Tyr Ser Pro Ser Tyr
    770             775             780

Pro Asp Thr Arg Ser Ser Cys Ser Ser Gly Asp Asp Ser Val Phe Ser
785             790             795             800

Pro Asp Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr Pro His Ile
            805             810             815

Asn Gly Ser Val Lys Thr
            820
```

<210> 140
<211> 87
<212> PRT
<213> Human

<400> 140

```
Met Gln Lys Val Thr Leu Gly Leu Leu Val Phe Leu Ala Gly Phe Pro
1               5                   10                  15


Val Leu Asp Ala Asn Asp Leu Glu Asp Lys Asn Ser Pro Phe Tyr Tyr
            20                  25                  30


Asp Trp His Ser Leu Gln Val Gly Gly Leu Ile Cys Ala Gly Val Leu
        35                  40                  45


Cys Ala Met Gly Ile Ile Ile Val Met Ser Ala Lys Cys Lys Cys Lys
        50                  55                  60


Phe Gly Gln Lys Ser Gly His His Pro Gly Glu Thr Pro Pro Leu Ile
65                  70                  75                  80


Thr Pro Gly Ser Ala Gln Ser
                85
```

<210> 141
<211> 907
<212> PRT
<213> Human

<400> 141

```
Met Asp Thr Ser Arg Leu Gly Val Leu Leu Ser Leu Pro Val Leu Leu
1               5                   10                  15


Gln Leu Ala Thr Gly Gly Ser Ser Pro Arg Ser Gly Val Leu Leu Arg
            20                  25                  30


Gly Cys Pro Thr His Cys His Cys Glu Pro Asp Gly Arg Met Leu Leu
        35                  40                  45


Arg Val Asp Cys Ser Asp Leu Gly Leu Ser Glu Leu Pro Ser Asn Leu
        50                  55                  60


Ser Val Phe Thr Ser Tyr Leu Asp Leu Ser Met Asn Asn Ile Ser Gln
65                  70                  75                  80
```

Leu Leu Pro Asn Pro Leu Pro Ser Leu Arg Phe Leu Glu Glu Leu Arg
             85   90   95

Leu Ala Gly Asn Ala Leu Thr Tyr Ile Pro Lys Gly Ala Phe Thr Gly
            100   105   110

Leu Tyr Ser Leu Lys Val Leu Met Leu Gln Asn Asn Gln Leu Arg His
        115   120   125

Val Pro Thr Glu Ala Leu Gln Asn Leu Arg Ser Leu Gln Ser Leu Arg
    130   135   140

Leu Asp Ala Asn His Ile Ser Tyr Val Pro Pro Ser Cys Phe Ser Gly
145   150   155   160

Leu His Ser Leu Arg His Leu Trp Leu Asp Asp Asn Ala Leu Thr Glu
            165   170   175

Ile Pro Val Gln Ala Phe Arg Ser Leu Ser Ala Leu Gln Ala Met Thr
            180   185   190

Leu Ala Leu Asn Lys Ile His His Ile Pro Asp Tyr Ala Phe Gly Asn
    195   200   205

Leu Ser Ser Leu Val Val Leu His Leu His Asn Asn Arg Ile His Ser
210   215   220

Leu Gly Lys Lys Cys Phe Asp Gly Leu His Ser Leu Glu Thr Leu Asp
225   230   235   240

Leu Asn Tyr Asn Asn Leu Asp Glu Phe Pro Thr Ala Ile Arg Thr Leu
            245   250   255

Ser Asn Leu Lys Glu Leu Gly Phe His Ser Asn Asn Ile Arg Ser Ile
        260   265   270

Pro Glu Lys Ala Phe Val Gly Asn Pro Ser Leu Ile Thr Ile His Phe
    275   280   285

Tyr Asp Asn Pro Ile Gln Phe Val Gly Arg Ser Ala Phe Gln His Leu
290   295   300

Pro Glu Leu Arg Thr Leu Thr Leu Asn Gly Ala Ser Gln Ile Thr Glu
305   310   315   320

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```
Phe Pro Asp Leu Thr Gly Thr Ala Asn Leu Glu Ser Leu Thr Leu Thr
            325             330             335

Gly Ala Gln Ile Ser Ser Leu Pro Gln Thr Val Cys Asn Gln Leu Pro
            340             345             350

Asn Leu Gln Val Leu Asp Leu Ser Tyr Asn Leu Leu Glu Asp Leu Pro
            355             360             365

Ser Phe Ser Val Cys Gln Lys Leu Gln Lys Ile Asp Leu Arg His Asn
    370             375             380

Glu Ile Tyr Glu Ile Lys Val Asp Thr Phe Gln Gln Leu Leu Ser Leu
385             390             395             400

Arg Ser Leu Asn Leu Ala Trp Asn Lys Ile Ala Ile Ile His Pro Asn
            405             410             415

Ala Phe Ser Thr Leu Pro Ser Leu Ile Lys Leu Asp Leu Ser Ser Asn
            420             425             430

Leu Leu Ser Ser Phe Pro Ile Thr Gly Leu His Gly Leu Thr His Leu
            435             440             445

Lys Leu Thr Gly Asn His Ala Leu Gln Ser Leu Ile Ser Ser Glu Asn
    450             455             460

Phe Pro Glu Leu Lys Val Ile Glu Met Pro Tyr Ala Tyr Gln Cys Cys
465             470             475             480

Ala Phe Gly Val Cys Glu Asn Ala Tyr Lys Ile Ser Asn Gln Trp Asn
            485             490             495

Lys Gly Asp Asn Ser Ser Met Asp Asp Leu His Lys Lys Asp Ala Gly
            500             505             510

Met Phe Gln Ala Gln Asp Glu Arg Asp Leu Glu Asp Phe Leu Leu Asp
            515             520             525

Phe Glu Glu Asp Leu Lys Ala Leu His Ser Val Gln Cys Ser Pro Ser
    530             535             540

Pro Gly Pro Phe Lys Pro Cys Glu His Leu Leu Asp Gly Trp Leu Ile
545             550             555             560
```

Arg Ile Gly Val Trp Thr Ile Ala Val Leu Ala Leu Thr Cys Asn Ala
                565   570   575

Leu Val Thr Ser Thr Val Phe Arg Ser Pro Leu Tyr Ile Ser Pro Ile
            580   585   590

Lys Leu Leu Ile Gly Val Ile Ala Ala Val Asn Met Leu Thr Gly Val
        595   600   605

Ser Ser Ala Val Leu Ala Gly Val Asp Ala Phe Thr Phe Gly Ser Phe
    610   615   620

Ala Arg His Gly Ala Trp Trp Glu Asn Gly Val Gly Cys His Val Ile
625   630   635   640

Gly Phe Leu Ser Ile Phe Ala Ser Glu Ser Val Phe Leu Leu Thr
            645   650   655

Leu Ala Ala Leu Glu Arg Gly Phe Ser Val Lys Tyr Ser Ala Lys Phe
            660   665   670

Glu Thr Lys Ala Pro Phe Ser Ser Leu Lys Val Ile Ile Leu Leu Cys
    675   680   685

Ala Leu Leu Ala Leu Thr Met Ala Ala Val Pro Leu Leu Gly Gly Ser
    690   695   700

Lys Tyr Gly Ala Ser Pro Leu Cys Leu Pro Leu Pro Phe Gly Glu Pro
705   710   715   720

Ser Thr Met Gly Tyr Met Val Ala Leu Ile Leu Leu Asn Ser Leu Cys
            725   730   735

Phe Leu Met Met Thr Ile Ala Tyr Thr Lys Leu Tyr Cys Asn Leu Asp
            740   745   750

Lys Gly Asp Leu Glu Asn Ile Trp Asp Cys Ser Met Val Lys His Ile
    755   760   765

Ala Leu Leu Leu Phe Thr Asn Cys Ile Leu Asn Cys Pro Val Ala Phe
    770   775   780

Leu Ser Phe Ser Ser Leu Ile Asn Leu Thr Phe Ile Ser Pro Glu Val

```
        785                    790                    795                    800

    Ile Lys Phe Ile Leu Leu Val Val Val Pro Leu Pro Ala Cys Leu Asn
                    805                    810                    815

    Pro Leu Leu Tyr Ile Leu Phe Asn Pro His Phe Lys Glu Asp Leu Val
                    820                    825                    830

    Ser Leu Arg Lys Gln Thr Tyr Val Trp Thr Arg Ser Lys His Pro Ser
                    835                    840                    845

    Leu Met Ser Ile Asn Ser Asp Asp Val Glu Lys Gln Ser Cys Asp Ser
                    850                    855                    860

    Thr Gln Ala Leu Val Thr Phe Thr Ser Ser Ser Ile Thr Tyr Asp Leu
    865                    870                    875                    880

    Pro Pro Ser Ser Val Pro Ser Pro Ala Tyr Pro Val Thr Glu Ser Cys
                    885                    890                    895

    His Leu Ser Ser Val Ala Phe Val Pro Cys Leu
                    900                    905
```

<210> 142
<211> 1134
<212> PRT
<213> Human

<400> 142

```
    Met Glu Ser Thr Pro Ser Phe Leu Lys Gly Thr Pro Thr Trp Glu Lys
    1                   5                   10                  15

    Thr Ala Pro Glu Asn Gly Ile Val Arg Gln Glu Pro Gly Ser Pro Pro
                    20                  25                  30

    Arg Asp Gly Leu His His Gly Pro Leu Cys Leu Gly Glu Pro Ala Pro
                    35                  40                  45

    Phe Trp Arg Gly Val Leu Ser Thr Pro Asp Ser Trp Leu Pro Pro Gly
        50                  55                  60

    Phe Pro Gln Gly Pro Lys Asp Met Leu Pro Leu Val Glu Gly Glu Gly
    65                  70                  75                  80

    Pro Gln Asn Gly Glu Arg Lys Val Asn Trp Leu Gly Ser Lys Glu Gly
```

```
                          85                        90                        95

        Leu Arg Trp Lys Glu Ala Met Leu Thr His Pro Leu Ala Phe Cys Gly
                    100                 105                 110

        Pro Ala Cys Pro Pro Arg Cys Gly Pro Leu Met Pro Glu His Ser Gly
                    115                 120                 125

        Gly His Leu Lys Ser Asp Pro Val Ala Phe Arg Pro Trp His Cys Pro
                    130                 135                 140

        Phe Leu Leu Glu Thr Lys Ile Leu Glu Arg Ala Pro Phe Trp Val Pro
        145                 150                 155                 160

        Thr Cys Leu Pro Pro Tyr Leu Val Ser Gly Leu Pro Pro Glu His Pro
                        165                 170                 175

        Cys Asp Trp Pro Leu Thr Pro His Pro Trp Val Tyr Ser Gly Gly Gln
                    180                 185                 190

        Pro Lys Val Pro Ser Ala Phe Ser Leu Gly Ser Lys Gly Phe Tyr Tyr
                    195                 200                 205

        Lys Asp Pro Ser Ile Pro Arg Leu Ala Lys Glu Pro Leu Ala Ala Ala
            210                 215                 220

        Glu Pro Gly Leu Phe Gly Leu Asn Ser Gly Gly His Leu Gln Arg Ala
        225                 230                 235                 240

        Gly Glu Ala Glu Arg Pro Ser Leu His Gln Arg Asp Gly Glu Met Gly
                        245                 250                 255

        Ala Gly Arg Gln Gln Asn Pro Cys Pro Leu Phe Leu Gly Gln Pro Asp
                    260                 265                 270

        Thr Val Pro Trp Thr Ser Trp Pro Ala Cys Pro Pro Gly Leu Val His
                275                 280                 285

        Thr Leu Gly Asn Val Trp Ala Gly Pro Gly Asp Gly Asn Leu Gly Tyr
            290                 295                 300

        Gln Leu Gly Pro Pro Ala Thr Pro Arg Cys Pro Ser Pro Glu Pro Pro
        305                 310                 315                 320
```

Val Thr Gln Arg Gly Cys Cys Ser Ser Tyr Pro Pro Thr Lys Gly Gly
          325   330   335

Gly Leu Gly Pro Cys Gly Lys Cys Gln Glu Gly Leu Glu Gly Gly Ala
          340   345   350

Ser Gly Ala Ser Glu Pro Ser Glu Glu Val Asn Lys Ala Ser Gly Pro
          355   360   365

Arg Ala Cys Pro Pro Ser His His Thr Lys Leu Lys Lys Thr Trp Leu
370   375   380

Thr Arg His Ser Glu Gln Phe Glu Cys Pro Arg Gly Cys Pro Glu Val
385   390   395   400

Glu Glu Arg Pro Val Ala Arg Leu Arg Ala Leu Lys Arg Ala Gly Ser
               405   410   415

Pro Glu Val Gln Gly Ala Met Gly Ser Pro Ala Pro Lys Arg Pro Pro
          420   425   430

Asp Pro Phe Pro Gly Thr Ala Glu Gln Gly Ala Gly Gly Trp Gln Glu
          435   440   445

Val Arg Asp Thr Ser Ile Gly Asn Lys Asp Val Asp Ser Gly Gln His
450   455   460

Asp Glu Gln Lys Gly Pro Gln Asp Gly Gln Ala Ser Leu Gln Asp Pro
465   470   475   480

Gly Leu Gln Asp Ile Pro Cys Leu Ala Leu Pro Ala Lys Leu Ala Gln
          485   490   495

Cys Gln Ser Cys Ala Gln Ala Ala Gly Glu Gly Gly Gly His Ala Cys
          500   505   510

His Ser Gln Gln Val Arg Arg Ser Pro Leu Gly Gly Glu Leu Gln Gln
          515   520   525

Glu Glu Asp Thr Ala Thr Asn Ser Ser Ser Glu Glu Gly Pro Gly Ser
530   535   540

Gly Pro Asp Ser Arg Leu Ser Thr Gly Leu Ala Lys His Leu Leu Ser
545   550   555   560

```
Gly Leu Gly Asp Arg Leu Cys Arg Leu Leu Arg Arg Glu Arg Glu Ala
             565         570              575


Leu Ala Trp Ala Gln Arg Glu Gly Gln Gly Pro Ala Val Thr Glu Asp
             580             585              590


Ser Pro Gly Ile Pro Arg Cys Cys Ser Arg Cys His His Gly Leu Phe
         595             600         605


Asn Thr His Trp Arg Cys Pro Arg Cys Ser His Arg Leu Cys Val Ala
    610             615         620


Cys Gly Arg Val Ala Gly Thr Gly Arg Ala Arg Glu Lys Ala Gly Phe
625             630         635              640


Gln Glu Gln Ser Ala Glu Glu Cys Thr Gln Glu Ala Gly His Ala Ala
             645             650              655


Cys Ser Leu Met Leu Thr Gln Phe Val Ser Ser Gln Ala Leu Ala Glu
             660             665              670


Leu Ser Thr Ala Met His Gln Val Trp Val Lys Phe Asp Ile Arg Gly
             675             680         685


His Cys Pro Cys Gln Ala Asp Ala Arg Val Trp Ala Pro Gly Asp Ala
    690             695              700


Gly Gln Gln Lys Glu Ser Thr Gln Lys Thr Pro Pro Thr Pro Gln Pro
705             710              715              720


Ser Cys Asn Gly Asp Thr His Arg Thr Lys Ser Ile Lys Glu Glu Thr
             725             730              735


Pro Asp Ser Ala Glu Thr Pro Ala Glu Asp Arg Ala Gly Arg Gly Pro
             740             745              750


Leu Pro Cys Pro Ser Leu Cys Glu Leu Leu Ala Ser Thr Ala Val Lys
         755             760         765


Leu Cys Leu Gly His Glu Arg Ile His Met Ala Phe Ala Pro Val Thr
    770             775         780


Pro Ala Leu Pro Ser Asp Asp Arg Ile Thr Asn Ile Leu Asp Ser Ile
785             790             795              800
```

```
Ile Ala Gln Val Val Glu Arg Lys Ile Gln Glu Lys Ala Leu Gly Pro
            805             810             815

Gly Leu Arg Ala Gly Pro Gly Leu Arg Lys Gly Leu Gly Leu Pro Leu
            820             825             830

Ser Pro Val Arg Pro Arg Leu Pro Pro Pro Gly Ala Leu Leu Trp Leu
            835             840             845

Gln Glu Pro Gln Pro Cys Pro Arg Arg Gly Phe His Leu Phe Gln Glu
    850             855             860

His Trp Arg Gln Gly Gln Pro Val Leu Val Ser Gly Ile Gln Arg Thr
865             870             875             880

Leu Gln Gly Asn Leu Trp Gly Thr Glu Ala Leu Gly Ala Leu Gly Gly
            885             890             895

Gln Val Gln Ala Leu Ser Pro Leu Gly Pro Pro Gln Pro Ser Ser Leu
            900             905             910

Gly Ser Thr Thr Phe Trp Glu Gly Phe Ser Trp Pro Glu Leu Arg Pro
            915             920             925

Lys Ser Asp Glu Gly Ser Val Leu Leu Leu His Arg Ala Leu Gly Asp
    930             935             940

Glu Asp Thr Ser Arg Val Glu Asn Leu Ala Ala Ser Leu Pro Leu Pro
945             950             955             960

Glu Tyr Cys Ala Leu His Gly Lys Leu Asn Leu Ala Ser Tyr Leu Pro
            965             970             975

Pro Gly Leu Ala Leu Arg Pro Leu Glu Pro Gln Leu Trp Ala Ala Tyr
            980             985             990

Gly Val Ser Pro His Arg Gly His Leu Gly Thr Lys Asn Leu Cys Val
    995             1000            1005

Glu Val Ala Asp Leu Val Ser Ile Leu Val His Ala Asp Thr Pro
    1010            1015            1020

Leu Pro Ala Trp His Arg Ala Gln Lys Asp Phe Leu Ser Gly Leu
```

```
       1025                        1030                        1035


   Asp Gly  Glu Gly Leu Trp Ser  Pro Gly Ser Gln Val  Ser Thr Val
       1040  .                    1045                      1050


   Trp His  Val Phe Arg Ala Gln  Asp Ala Gln Arg Ile  Arg Arg Phe
       1055                       1060                      1065


   Leu Gln  Met Val Gln Gly Leu  Val Ser Thr Val Ser  Val Thr Gln
       1070                       1075                      1080


   His Phe  Leu Ser Pro Glu Thr  Ser Ala Leu Ser Ala  Gln Leu Cys
       1085                       1090                      1095


   His Gln  Gly Pro Ser Leu Pro  Pro Asp Cys His Leu  Leu Tyr Ala
       1100                       1105                      1110


   Gln Met  Asp Trp Ala Val Phe  Gln Ala Val Lys Val  Ala Val Gly
       1115                       1120                      1125


   Thr Leu  Gln Glu Ala Lys
       1130
```

```
<210>  143
<211>  142
<212>  PRT
<213>  Human

<400>  143

Met Val Leu Ser Pro Ala Asp Lys Thr Asn Val Lys Ala Ala Trp Gly
1                   5                   10                  15


Lys Val Gly Ala His Ala Gly Glu Tyr Gly Ala Glu Ala Leu Glu Arg
            20                  25                  30


Met Phe Leu Ser Phe Pro Thr Thr Lys Thr Tyr Phe Pro His Phe Asp
        35                  40                  45


Leu Ser His Gly Ser Ala Gln Val Lys Gly His Gly Lys Lys Val Ala
    50                  55                  60


Asp Ala Leu Thr Asn Ala Val Ala His Val Asp Asp Met Pro Asn Ala
65                  70                  75                  80


Leu Ser Ala Leu Ser Asp Leu His Ala His Lys Leu Arg Val Asp Pro
```

```
                    85                      90                         95

Val Asn Phe Lys Leu Leu Ser His Cys Leu Leu Val Thr Leu Ala Ala
            100             105             110

His Leu Pro Ala Glu Phe Thr Pro Ala Val His Ala Ser Leu Asp Lys
            115             120             125

Phe Leu Ala Ser Val Ser Thr Val Leu Thr Ser Lys Tyr Arg
            130             135             140
```

<210> 144
<211> 543
<212> PRT
<213> Human

<400> 144

```
Met Leu Leu Arg Ser Lys Pro Ala Leu Pro Pro Leu Met Leu Leu
1               5               10              15

Leu Leu Gly Pro Leu Gly Pro Leu Ser Pro Gly Ala Leu Pro Arg Pro
            20              25              30

Ala Gln Ala Gln Asp Val Val Asp Leu Asp Phe Phe Thr Gln Glu Pro
        35              40              45

Leu His Leu Val Ser Pro Ser Phe Leu Ser Val Thr Ile Asp Ala Asn
    50              55              60

Leu Ala Thr Asp Pro Arg Phe Leu Ile Leu Leu Gly Ser Pro Lys Leu
65              70              75              80

Arg Thr Leu Ala Arg Gly Leu Ser Pro Ala Tyr Leu Arg Phe Gly Gly
            85              90              95

Thr Lys Thr Asp Phe Leu Ile Phe Asp Pro Lys Lys Glu Ser Thr Phe
            100             105             110

Glu Glu Arg Ser Tyr Trp Gln Ser Gln Val Asn Gln Asp Ile Cys Lys
            115             120             125

Tyr Gly Ser Ile Pro Pro Asp Val Glu Glu Lys Leu Arg Leu Glu Trp
            130             135             140

Pro Tyr Gln Glu Gln Leu Leu Leu Arg Glu His Tyr Gln Lys Lys Phe
```

```
    145                    150                    155                    160

    Lys Asn Ser Thr Tyr Ser Arg Ser Ser Val Asp Val Leu Tyr Thr Phe
                165                    170                    175

    Ala Asn Cys Ser Gly Leu Asp Leu Ile Phe Gly Leu Asn Ala Leu Leu
                180                    185                    190

    Arg Thr Ala Asp Leu Gln Trp Asn Ser Ser Asn Ala Gln Leu Leu Leu
                195                    200                    205

    Asp Tyr Cys Ser Ser Lys Gly Tyr Asn Ile Ser Trp Glu Leu Gly Asn
        210                    215                    220

    Glu Pro Asn Ser Phe Leu Lys Lys Ala Asp Ile Phe Ile Asn Gly Ser
    225                    230                    235                    240

    Gln Leu Gly Glu Asp Phe Ile Gln Leu His Lys Leu Leu Arg Lys Ser
                    245                    250                    255

    Thr Phe Lys Asn Ala Lys Leu Tyr Gly Pro Asp Val Gly Gln Pro Arg
                260                    265                    270

    Arg Lys Thr Ala Lys Met Leu Lys Ser Phe Leu Lys Ala Gly Gly Glu
                275                    280                    285

    Val Ile Asp Ser Val Thr Trp His His Tyr Tyr Leu Asn Gly Arg Thr
        290                    295                    300

    Ala Thr Arg Glu Asp Phe Leu Asn Pro Asp Val Leu Asp Ile Phe Ile
    305                    310                    315                    320

    Ser Ser Val Gln Lys Val Phe Gln Val Val Glu Ser Thr Arg Pro Gly
                325                    330                    335

    Lys Lys Val Trp Leu Gly Glu Thr Ser Ser Ala Tyr Gly Gly Gly Ala
                340                    345                    350

    Pro Leu Leu Ser Asp Thr Phe Ala Ala Gly Phe Met Trp Leu Asp Lys
                355                    360                    365

    Leu Gly Leu Ser Ala Arg Met Gly Ile Glu Val Val Met Arg Gln Val
    370                    375                    380
```

```
Phe Phe Gly Ala Gly Asn Tyr His Leu Val Asp Glu Asn Phe Asp Pro
385             390             395             400

Leu Pro Asp Tyr Trp Leu Ser Leu Leu Phe Lys Lys Leu Val Gly Thr
                405             410             415

Lys Val Leu Met Ala Ser Val Gln Gly Ser Lys Arg Arg Lys Leu Arg
            420             425             430

Val Tyr Leu His Cys Thr Asn Thr Asp Asn Pro Arg Tyr Lys Glu Gly
        435             440             445

Asp Leu Thr Leu Tyr Ala Ile Asn Leu His Asn Val Thr Lys Tyr Leu
    450             455             460

Arg Leu Pro Tyr Pro Phe Ser Asn Lys Gln Val Asp Lys Tyr Leu Leu
465             470             475             480

Arg Pro Leu Gly Pro His Gly Leu Leu Ser Lys Ser Val Gln Leu Asn
            485             490             495

Gly Leu Thr Leu Lys Met Val Asp Asp Gln Thr Leu Pro Pro Leu Met
        500             505             510

Glu Lys Pro Leu Arg Pro Gly Ser Ser Leu Gly Leu Pro Ala Phe Ser
        515             520'            525

Tyr Ser Phe Phe Val Ile Arg Asn Ala Lys Val Ala Ala Cys Ile
    530             535             540
```

<210> 145
<211> 203
<212> PRT
<213> Human

<400> 145

```
Cys Ser Val Pro Phe Leu Pro Leu Ala Val Pro Val Arg Ala Val His
1               5               10              15

Arg Leu Leu Glu His Arg His His Ser Val Thr Trp Pro Ala Thr Glu
            20              25              30

Leu Pro Ile Thr Gln Leu Thr Ser Ser Ile Val Arg Arg Val Asn Glu
        35              40              45
```

```
Ala Ser Gly Leu Tyr Gln Met Phe Gly Val Leu Ala Asp Val Ile Leu
    50                  55              60

Leu Lys Glu Thr Gly Gly Glu Val Pro Pro Cys Thr Leu Ala Pro Ala
65                  70              75                  80

Ser Ala His Gly His Pro Ser His Arg Gly Arg Leu Leu Asn Arg Leu
                85              90                  95

Asp Cys Pro Asp Arg Ala His Pro Thr Ser Glu Ala Leu Pro Gly Glu
            100             105                 110

Leu Phe Gly His Arg Phe Ala Lys Leu Leu Cys Arg Val Leu Leu Pro
        115             120                 125

Val Arg Pro His Ala Pro Glu Val Ala Thr Leu Leu Pro Ala Gly Val
    130             135                 140

Pro Glu Asp Ala Gly Thr Arg Glu Tyr Arg Glu Pro Leu Ala Ala Gln
145             150                 155                 160

Ser Gly Glu Gln Ala Pro Ala Gly Leu Cys Pro His Arg Gln Ala Pro
            165             170                 175

Gly Gly Gln Gln Pro Ala Ala Trp Arg Pro Arg Ala Thr Arg Phe Pro
            180             185                 190

Pro Gly Ser Arg Ala Ser Gly Ser Val Arg Arg
        195             200
```

```
<210>  146
<211>  414
<212>  PRT
<213>  Human

<400>  146
```

```
Met Lys Ala Gln Thr Ala Leu Ser Phe Phe Leu Ile Leu Ile Thr Ser
1               5               10                  15

Leu Ser Gly Ser Gln Gly Ile Phe Pro Leu Ala Phe Phe Ile Tyr Val
            20              25                  30

Pro Met Asn Glu Gln Ile Val Ile Gly Arg Leu Asp Glu Asp Ile Ile
        35              40                  45
```

Leu Pro Ser Ser Phe Glu Arg Gly Ser Glu Val Val Ile His Trp Lys
    50   55   60

Tyr Gln Asp Ser Tyr Lys Val His Ser Tyr Tyr Lys Gly Ser Asp His
65   70   75   80

Leu Glu Ser Gln Asp Pro Arg Tyr Ala Asn Arg Thr Ser Leu Phe Tyr
                85   90   95

Asn Glu Ile Gln Asn Gly Asn Ala Ser Leu Phe Phe Arg Arg Val Ser
            100   105   110

Leu Leu Asp Glu Gly Ile Tyr Thr Cys Tyr Val Gly Thr Ala Ile Gln
        115   120   125

Val Ile Thr Asn Lys Val Val Leu Lys Val Gly Val Phe Leu Thr Pro
    130   135   140

Val Met Lys Tyr Glu Lys Arg Asn Thr Asn Ser Phe Leu Ile Cys Ser
145   150   155   160

Val Leu Ser Val Tyr Pro Arg Pro Ile Ile Thr Trp Lys Met Asp Asn
                165   170   175

Thr Pro Ile Ser Glu Asn Asn Met Glu Glu Thr Gly Ser Leu Asp Ser
            180   185   190

Phe Ser Ile Asn Ser Pro Leu Asn Ile Thr Gly Ser Asn Ser Ser Tyr
        195   200   205

Glu Cys Thr Ile Glu Asn Ser Leu Leu Lys Gln Thr Trp Thr Gly Arg
    210   215   220

Trp Thr Met Lys Asp Gly Leu His Lys Met Gln Ser Glu His Val Ser
225   230   235   240

Leu Ser Cys Gln Pro Val Asn Asp Tyr Phe Ser Pro Asn Gln Asp Phe
                245   250   255

Lys Val Thr Trp Ser Arg Met Lys Ser Gly Thr Phe Ser Val Leu Ala
            260   265   270

Tyr Tyr Leu Ser Ser Ser Gln Asn Thr Ile Ile Asn Glu Ser Arg Phe
    275   280   285

```
Ser Trp Asn Lys Glu Leu Ile Asn Gln Ser Asp Phe Ser Met Asn Leu
    290             295             300

Met Asp Leu Asn Leu Ser Asp Ser Gly Glu Tyr Leu Cys Asn Ile Ser
305             310             315             320

Ser Asp Glu Tyr Thr Leu Leu Thr Ile His Thr Val His Val Glu Pro
            325             330             335

Ser Gln Glu Thr Ala Ser His Asn Lys Gly Leu Trp Ile Leu Val Pro
            340             345             350

Ser Ala Ile Leu Ala Ala Phe Leu Leu Ile Trp Ser Val Lys Cys Cys
        355             360             365

Arg Ala Gln Leu Glu Ala Arg Arg Ser Arg His Pro Ala Asp Gly Ala
    370             375             380

Gln Gln Glu Arg Cys Cys Val Pro Pro Gly Glu Arg Cys Pro Ser Ala
385             390             395             400

Pro Asp Asn Gly Glu Glu Asn Val Pro Leu Ser Gly Lys Val
                405             410
```

```
<210>   147
<211>   545
<212>   PRT
<213>   Human

<400>   147
```

```
Met Val Asp Ala Ala Glu Asn Leu Cys Pro Asn Val Met Lys Lys Ala
1               5               10              15

His Ile Arg Gln Asp Leu Ile His Ala Ser Thr Glu Lys Ile Ser Ile
            20              25              30

Pro Arg Thr Phe Val Lys Asn Val Leu Leu Glu Gln Ser Gly Ile Asp
        35              40              45

Ile Leu Asn Lys Ile Ser Glu Val Lys Leu Thr Val Ala Ser Phe Leu
    50              55              60

Ser Asp Arg Ile Val Asp Glu Ile Leu Asp Ala Leu Ser His Cys His
65              70              75              80
```

His Lys Leu Ala Asp His Phe Ser Arg Arg Gly Lys Thr Leu Pro Gln
                 85   90   95

Gln Glu Ser Leu Glu Ile Glu Leu Ala Glu Glu Arg Pro Val Lys Arg
             100   105   110

Ser Ile Ile Thr Val Glu Glu Leu Thr Glu Ile Glu Arg Leu Glu Asp
         115   120   125

Leu Asp Thr Cys Met Met Thr Pro Lys Ser Lys Arg Lys Ser Ile His
     130   135   140

Ser Arg Met Leu Arg Pro Val Ser Arg Ala Phe Glu Met Glu Phe Asp
145   150   155   160

Leu Asp Lys Ala Leu Glu Glu Val Pro Ile His Ile Glu Asp Pro Pro
             165   170   175

Phe Pro Ser Leu Arg Gln Glu Lys Arg Ser Ser Gly Phe Ile Ser Glu
             180   185   190

Leu Pro Ser Glu Glu Gly Lys Lys Leu Glu His Phe Thr Lys Leu Arg
             195   200   205

Pro Lys Arg Asn Lys Lys Gln Gln Pro Thr Gln Ala Ala Val Cys Ala
     210   215   220

Ala Asn Ile Val Ser Gln Asp Gly Glu Gln Asn Gly Leu Met Gly Arg
225   230   235   240

Val Asp Glu Gly Val Asp Glu Phe Phe Thr Lys Lys Val Thr Lys Met
             245   250   255

Asp Ser Lys Lys Trp Ser Thr Arg Gly Ser Glu Ser His Glu Leu Asn
             260   265   270

Glu Gly Gly Asp Glu Lys Lys Lys Arg Asp Ser Arg Lys Ser Ser Gly
         275   280   285

Phe Leu Asn Leu Ile Lys Ser Arg Ser Lys Ser Glu Arg Pro Pro Thr
     290   295   300

Ile Leu Met Thr Glu Glu Pro Ser Ser Pro Lys Gly Ala Val Arg Ser
305   310   315   320

```
Pro Pro Val Asp Cys Pro Arg Lys Asp Thr Lys Ala Ala Glu His Asn
            325             330             335

Gly Asn Ser Glu Arg Ile Glu Glu Ile Lys Thr Pro Asp Ser Phe Glu
            340             345             350

Glu Ser Gln Gly Glu Glu Ile Gly Lys Val Glu Arg Ser Asp Ser Lys
        355             360             365

Ser Ser Pro Gln Ala Gly Arg Arg Tyr Gly Val Gln Val Met Gly Ser
    370                 375             380

Gly Leu Leu Ala Glu Met Lys Ala Lys Gln Glu Asn Arg Phe Gly Leu
385             390             395             400

Gly Thr Pro Glu Lys Asn Thr Lys Ala Glu Pro Lys Ala Glu Ala Gly
            405             410             415

Ser Arg Ser Arg Ser Ser Ser Ser Thr Pro Thr Ser Pro Lys Pro Leu
        420             425             430

Leu Gln Ser Pro Lys Pro Ser Leu Ala Ala Arg Pro Val Ile Pro Gln
    435             440             445

Lys Pro Arg Thr Ala Ser Arg Pro Asp Asp Ile Pro Asp Ser Pro Ser
    450             455             460

Ser Pro Lys Val Ala Leu Leu Pro Pro Val Leu Lys Lys Val Pro Ser
465             470             475             480

Asp Lys Glu Arg Asp Gly Gln Ser Ser Pro Gln Pro Ser Pro Arg Thr
            485             490             495

Phe Ser Gln Glu Val Ser Arg Arg Ser Trp Gly Gln Gln Ala Gln Glu
            500             505             510

Tyr Gln Glu Gln Lys Gln Arg Ser Ser Ser Lys Asp Gly His Gln Gly
            515             520             525

Ser Lys Ser Asn Asp Ser Gly Glu Glu Ala Glu Lys Glu Phe Ile Phe
    530             535             540

Val
```

545

```
<210>  148
<211>  315
<212>  PRT
<213>  Human

<400>  148

Met Pro Leu Lys Leu Arg Gly Lys Lys Ala Lys Ser Lys Glu Thr
1               5               10              15

Ala Gly Leu Val Glu Gly Glu Pro Thr Gly Ala Gly Gly Ser Leu
            20              25              30

Ser Ala Ser Arg Ala Pro Ala Arg Arg Leu Val Phe His Ala Gln Leu
        35              40              45

Ala His Gly Ser Ala Thr Gly Arg Val Glu Gly Phe Ser Ser Ile Gln
    50              55              60

Glu Leu Tyr Ala Gln Ile Ala Gly Ala Phe Glu Ile Ser Pro Ser Glu
65              70              75              80

Ile Leu Tyr Cys Thr Leu Asn Thr Pro Lys Ile Asp Met Glu Arg Leu
            85              90              95

Leu Gly Gly Gln Leu Gly Leu Glu Asp Phe Ile Phe Ala His Val Lys
        100             105             110

Gly Ile Glu Lys Glu Val Asn Val Tyr Lys Ser Glu Asp Ser Leu Gly
        115             120             125

Leu Thr Ile Thr Asp Asn Gly Val Gly Tyr Ala Phe Ile Lys Arg Ile
    130             135             140

Lys Asp Gly Gly Val Ile Asp Ser Val Lys Thr Ile Cys Val Gly Asp
145             150             155             160

His Ile Glu Ser Ile Asn Gly Glu Asn Ile Val Gly Trp Arg His Tyr
            165             170             175

Asp Val Ala Lys Lys Leu Lys Glu Leu Lys Lys Glu Glu Leu Phe Thr
            180             185             190

Met Lys Leu Ile Glu Pro Lys Lys Ala Phe Glu Ile Glu Leu Arg Ser
```

```
          195                      200                      205


Lys Ala Gly Lys Ser Ser Gly Glu Lys Ile Gly Cys Gly Arg Ala Thr
    210                 215             220

Leu Arg Leu Arg Ser Lys Gly Pro Ala Thr Val Glu Glu Met Pro Ser
225             230             235                         240

Glu Thr Lys Ala Lys Ala Ile Glu Lys Ile Asp Asp Val Leu Glu Leu
            245             250                     255

Tyr Met Gly Ile Arg Asp Ile Asp Leu Ala Thr Thr Met Phe Glu Ala
            260             265             270

Gly Lys Asp Lys Val Asn Pro Asp Glu Phe Ala Val Ala Leu Asp Glu
        275             280             285

Thr Leu Gly Asp Phe Ala Phe Pro Asp Glu Phe Val Phe Asp Val Trp
    290             295             300

Gly Val Ile Gly Asp Ala Lys Arg Arg Gly Leu
305             310             315


<210>  149
<211>  486
<212>  PRT
<213>  Human

<400>  149

Met Pro Arg Pro Ala Pro Ala Arg Arg Leu Pro Gly Leu Leu Leu Leu
1               5                   10                  15

Leu Trp Pro Leu Leu Leu Leu Pro Ser Ala Ala Pro Asp Pro Val Ala
            20                  25                  30

Arg Pro Gly Phe Arg Arg Leu Glu Thr Arg Gly Pro Gly Gly Ser Pro
        35                  40                  45

Gly Arg Arg Pro Ser Pro Ala Ala Pro Asp Gly Ala Pro Ala Ser Gly
    50                  55                  60

Thr Ser Glu Pro Gly Arg Ala Arg Gly Ala Gly Val Cys Lys Ser Arg
65                  70                  75                  80

Pro Leu Asp Leu Val Phe Ile Ile Asp Ser Ser Arg Ser Val Arg Pro
```

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                          85   90   95

Leu Glu Phe Thr Lys Val Lys Thr Phe Val Ser Arg Ile Ile Asp Thr
            100   105   110

Leu Asp Ile Gly Pro Ala Asp Thr Arg Val Ala Val Val Asn Tyr Ala
            115   120   125

Ser Thr Val Lys Ile Glu Phe Gln Leu Gln Ala Tyr Thr Asp Lys Gln
    130   135   140

Ser Leu Lys Gln Ala Val Gly Arg Ile Thr Pro Leu Ser Thr Gly Thr
145   150   155   160

Met Ser Gly Leu Ala Ile Gln Thr Ala Met Asp Glu Ala Phe Thr Val
            165   170   175

Glu Ala Gly Ala Arg Glu Pro Ser Ser Asn Ile Pro Lys Val Ala Ile
            180   185   190

Ile Val Thr Asp Gly Arg Pro Gln Asp Gln Val Asn Glu Val Ala Ala
        195   200   205

Arg Ala Gln Ala Ser Gly Ile Glu Leu Tyr Ala Val Gly Val Asp Arg
    210   215   220

Ala Asp Met Ala Ser Leu Lys Met Met Ala Ser Glu Pro Leu Glu Glu
225   230   235   240

His Val Phe Tyr Val Glu Thr Tyr Gly Val Ile Glu Lys Leu Ser Ser
            245   250   255

Arg Phe Gln Glu Thr Phe Cys Ala Leu Asp Pro Cys Val Leu Gly Thr
            260   265   270

His Gln Cys Gln His Val Cys Ile Ser Asp Gly Glu Gly Lys His His
            275   280   285

Cys Glu Cys Ser Gln Gly Tyr Thr Leu Asn Ala Asp Lys Lys Thr Cys
    290   295   300

Ser Ala Leu Asp Arg Cys Ala Leu Asn Thr His Gly Cys Glu His Ile
305   310   315   320

```
Cys Val Asn Asp Arg Ser Gly Ser Tyr His Cys Glu Cys Tyr Glu Gly
            325                 330                 335

Tyr Thr Leu Asn Glu Asp Arg Lys Thr Cys Ser Ala Gln Asp Lys Cys
            340                 345                 350

Ala Leu Gly Thr His Gly Cys Gln His Ile Cys Val Asn Asp Arg Thr
            355                 360                 365

Gly Ser His His Cys Glu Cys Tyr Glu Gly Tyr Thr Leu Asn Ala Asp
    370                 375                 380

Lys Lys Thr Cys Ser Val Arg Asp Lys Cys Ala Leu Gly Ser His Gly
385                 390                 395                 400

Cys Gln His Ile Cys Val Ser Asp Gly Ala Ala Ser Tyr His Cys Asp
                405                 410                 415

Cys Tyr Pro Gly Tyr Thr Leu Asn Glu Asp Lys Lys Thr Cys Ser Ala
            420                 425                 430

Thr Glu Glu Ala Arg Arg Leu Val Ser Thr Glu Asp Ala Cys Gly Cys
            435                 440                 445

Glu Ala Thr Leu Ala Phe Gln Asp Lys Val Ser Ser Tyr Leu Gln Arg
    450                 455                 460

Leu Asn Thr Lys Leu Asp Asp Ile Leu Glu Lys Leu Lys Ile Asn Glu
465                 470                 475                 480

Tyr Gly Gln Ile His Arg
                485
```

```
<210>   150
<211>   668
<212>   PRT
<213>   Human

<400>   150
```

```
Met Ala Ala Asn Met Tyr Arg Val Gly Asp Tyr Val Tyr Phe Glu Asn
1               5                   10                  15

Ser Ser Ser Asn Pro Tyr Leu Val Arg Arg Ile Glu Glu Leu Asn Lys
            20                  25                  30
```

```
Thr Ala Asn Gly Asn Val Glu Ala Lys Val Val Cys Leu Phe Arg Arg
        35              40              45

Arg Asp Ile Ser Ser Ser Leu Asn Ser Leu Ala Asp Ser Asn Ala Arg
        50          55              60

Glu Phe Glu Glu Glu Ser Lys Gln Pro Gly Val Ser Glu Gln Gln Arg
65                  70              75              80

His Gln Leu Lys His Arg Glu Leu Phe Leu Ser Arg Gln Phe Glu Ser
            85              90              95

Leu Pro Ala Thr His Ile Arg Gly Lys Cys Ser Val Thr Leu Leu Asn
            100             105             110

Glu Thr Asp Ile Leu Ser Gln Tyr Leu Glu Lys Glu Asp Cys Phe Phe
        115             120             125

Tyr Ser Leu Val Phe Asp Pro Val Gln Lys Thr Leu Leu Ala Asp Gln
    130             135             140

Gly Glu Ile Arg Val Gly Cys Lys Tyr Gln Ala Glu Ile Pro Asp Arg
145             150             155             160

Leu Val Glu Gly Glu Ser Asp Asn Arg Asn Gln Gln Lys Met Glu Met
            165             170             175

Lys Val Trp Asp Pro Asp Asn Pro Leu Thr Asp Arg Gln Ile Asp Gln
            180             185             190

Phe Leu Val Val Ala Arg Ala Val Gly Thr Phe Ala Arg Ala Leu Asp
    195             200             205

Cys Ser Ser Ser Ile Arg Gln Pro Ser Leu His Met Ser Ala Ala Ala
    210             215             220

Ala Ser Arg Asp Ile Thr Leu Phe His Ala Met Asp Thr Leu Gln Arg
225             230             235             240

Asn Gly Tyr Asp Leu Ala Lys Ala Met Ser Thr Leu Val Pro Gln Gly
            245             250             255

Gly Pro Val Leu Cys Arg Asp Glu Met Glu Glu Trp Ser Ala Ser Glu
        260             265             270
```

```
Ala Met Leu Phe Glu Glu Ala Leu Glu Lys Tyr Gly Lys Asp Phe Asn
        275                 280                 285

Asp Ile Arg Gln Asp Phe Leu Pro Trp Lys Ser Leu Ala Ser Ile Val
    290                 295                 300

Gln Phe Tyr Tyr Met Trp Lys Thr Thr Asp Arg Tyr Ile Gln Gln Lys
305                 310                 315                 320

Arg Leu Lys Ala Ala Glu Ala Asp Ser Lys Leu Lys Gln Val Tyr Ile
            325                 330                 335

Pro Thr Tyr Thr Lys Pro Asn Pro Asn Gln Ile Ile Ser Val Gly Ser
            340                 345                 350

Lys Pro Gly Met Asn Gly Ala Gly Phe Gln Lys Gly Leu Thr Cys Glu
        355                 360                 365

Ser Cys His Thr Thr Gln Ser Ala Gln Trp Tyr Ala Trp Gly Pro Pro
    370                 375                 380

Asn Met Gln Cys Arg Leu Cys Ala Ser Cys Trp Ile Tyr Trp Lys Lys
385                 390                 395                 400

Tyr Gly Gly Leu Lys Thr Pro Thr Gln Leu Glu Gly Ala Thr Arg Gly
            405                 410                 415

Thr Thr Glu Pro His Ser Arg Gly His Leu Ser Arg Pro Glu Ala Gln
            420                 425                 430

Ser Leu Ser Pro Tyr Thr Thr Ser Ala Asn Arg Ala Lys Leu Leu Ala
        435                 440                 445

Lys Asn Arg Gln Thr Phe Leu Leu Gln Thr Thr Lys Leu Thr Arg Leu
    450                 455                 460

Ala Arg Arg Met Cys Arg Asp Leu Leu Gln Pro Arg Arg Ala Ala Arg
465                 470                 475                 480

Arg Pro Tyr Ala Pro Ile Asn Ala Asn Ala Ile Lys Ala Glu Cys Ser
            485                 490                 495

Ile Arg Leu Pro Lys Ala Ala Lys Thr Pro Leu Lys Ile His Pro Leu
            500                 505                 510
```

Val Arg Leu Pro Leu Ala Thr Ile Val Lys Asp Leu Val Ala Gln Ala
        515   520   525

Pro Leu Lys Pro Lys Thr Pro Arg Gly Thr Lys Thr Pro Ile Asn Arg
    530   535   540

Asn Gln Leu Ser Gln Asn Arg Gly Leu Gly Gly Ile Met Val Lys Arg
545   550   555   560

Ala Tyr Glu Thr Met Ala Gly Ala Gly Val Pro Phe Ser Ala Asn Gly
                565   570   575

Arg Pro Leu Ala Ser Gly Ile Arg Ser Ser Ser Gln Pro Ala Ala Lys
        580   585   590

Arg Gln Lys Leu Asn Pro Ala Asp Ala Pro Asn Pro Val Val Phe Val
    595   600   605

Ala Thr Lys Asp Thr Arg Ala Leu Arg Lys Ala Leu Thr His Leu Glu
    610   615   620

Met Arg Arg Ala Ala Arg Arg Pro Asn Leu Pro Leu Lys Val Lys Pro
625   630   635   640

Thr Leu Ile Ala Val Arg Pro Pro Val Pro Leu Pro Ala Pro Ser His
            645   650   655

Pro Ala Ser Thr Asn Glu Pro Ile Val Leu Glu Asp
            660   665

<210>   151
<211>   5179
<212>   PRT
<213>   Human

<400>   151

Met Gly Leu Pro Leu Ala Arg Leu Ala Ala Val Cys Leu Ala Leu Ser
1   5   10   15

Leu Ala Gly Gly Ser Glu Leu Gln Thr Glu Gly Arg Thr Arg Tyr His
            20   25   30

Gly Arg Asn Val Cys Ser Thr Trp Gly Asn Phe His Tyr Lys Thr Phe
        35   40   45

Asp Gly Asp Val Phe Arg Phe Pro Gly Leu Cys Asp Tyr Asn Phe Ala
    50   55   60

Ser Asp Cys Arg Gly Ser Tyr Lys Glu Phe Ala Val His Leu Lys Arg
 65   70   75   80

Gly Pro Gly Gln Ala Glu Ala Pro Ala Gly Val Glu Ser Ile Leu Leu
            85   90   95

Thr Ile Lys Asp Asp Thr Ile Tyr Leu Thr Arg His Leu Ala Val Leu
          100   105   110

Asn Gly Ala Val Val Ser Thr Pro His Tyr Ser Pro Gly Leu Leu Ile
        115   120   125

Glu Lys Ser Asp Ala Tyr Thr Lys Val Tyr Ser Arg Ala Gly Leu Thr
   130   135   140

Leu Met Trp Asn Arg Glu Asp Ala Leu Met Leu Glu Leu Asp Thr Lys
145   150   155   160

Phe Arg Asn His Thr Cys Gly Leu Cys Gly Asp Tyr Asn Gly Leu Gln
          165   170   175

Ser Tyr Ser Glu Phe Leu Ser Asp Gly Val Leu Phe Ser Pro Leu Glu
        180   185   190

Phe Gly Asn Met Gln Lys Ile Asn Gln Pro Asp Val Val Cys Glu Asp
      195   200   205

Pro Glu Glu Glu Val Ala Pro Ala Ser Cys Ser Glu His Arg Ala Glu
   210   215   220

Cys Glu Arg Leu Leu Thr Ala Glu Ala Phe Ala Asp Cys Gln Asp Leu
225   230   235   240

Val Pro Leu Glu Pro Tyr Leu Arg Ala Cys Gln Gln Asp Arg Cys Arg
        245   250   255

Cys Pro Gly Gly Asp Thr Cys Val Cys Ser Thr Val Ala Glu Phe Ser
        260   265   270

Arg Gln Cys Ser His Ala Gly Gly Arg Pro Gly Asn Trp Arg Thr Ala

275   280   285

Thr Leu Cys Pro Lys Thr Cys Pro Gly Asn Leu Val Tyr Leu Glu Ser
    290   295   300

Gly Ser Pro Cys Met Asp Thr Cys Ser His Leu Glu Val Ser Ser Leu
305   310   315   320

Cys Glu Glu His Arg Met Asp Gly Cys Phe Cys Pro Glu Gly Thr Val
            325   330   335

Tyr Asp Asp Ile Gly Asp Ser Gly Cys Val Pro Val Ser Gln Cys His
            340   345   350

Cys Arg Leu His Gly His Leu Tyr Thr Pro Gly Gln Glu Ile Thr Asn
        355   360   365

Asp Cys Glu Gln Cys Val Cys Asn Ala Gly Arg Trp Val Cys Lys Asp
    370   375   380

Leu Pro Cys Pro Gly Thr Cys Ala Leu Glu Gly Gly Ser His Ile Thr
385   390   395   400

Thr Phe Asp Gly Lys Thr Tyr Thr Phe His Gly Asp Cys Tyr Tyr Val
                405   410   415

Leu Ala Lys Gly Asp His Asn Asp Ser Tyr Ala Leu Leu Gly Glu Leu
            420   425   430

Ala Pro Cys Gly Ser Thr Asp Lys Gln Thr Cys Leu Lys Thr Val Val
        435   440   445

Leu Leu Ala Asp Lys Lys Asn Ala Val Val Phe Lys Ser Asp Gly
    450   455   460

Ser Val Leu Leu Asn Gln Leu Gln Val Asn Leu Pro His Val Thr Ala
465   470   475   480

Ser Phe Ser Val Phe Arg Pro Ser Ser Tyr His Ile Met Val Ser Met
            485   490   495

Ala Ile Gly Val Arg Leu Gln Val Gln Leu Ala Pro Val Met Gln Leu
        500   505   510

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```
Phe Val Thr Leu Asp Gln Ala Ser Gln Gly Gln Val Gln Gly Leu Cys
        515         520                 525

Gly Asn Phe Asn Gly Leu Glu Gly Asp Asp Phe Lys Thr Ala Ser Gly
    530             535                 540

Leu Val Glu Ala Thr Gly Ala Gly Phe Ala Asn Thr Trp Lys Ala Gln
545             550                 555                 560

Ser Thr Cys His Asp Lys Leu Asp Trp Leu Asp Asp Pro Cys Ser Leu
                565                 570                 575

Asn Ile Glu Ser Ala Asn Tyr Ala Glu His Trp Cys Ser Leu Leu Lys
            580                 585                 590

Lys Thr Glu Thr Pro Phe Gly Arg Cys His Ser Ala Val Asp Pro Ala
        595                 600                 605

Glu Tyr Tyr Lys Arg Cys Lys Tyr Asp Thr Cys Asn Cys Gln Asn Asn
    610             615                 620

Glu Asp Cys Leu Cys Ala Ala Leu Ser Ser Tyr Ala Arg Ala Cys Thr
625             630                 635                 640

Ala Lys Gly Val Met Leu Trp Gly Trp Arg Glu His Val Cys Asn Lys
            645                 650                 655

Asp Val Gly Ser Cys Pro Asn Ser Gln Val Phe Leu Tyr Asn Leu Thr
            660             665                 670

Thr Cys Gln Gln Thr Cys Arg Ser Leu Ser Glu Ala Asp Ser His Cys
        675             680                 685

Leu Glu Gly Phe Ala Pro Val Asp Gly Cys Gly Cys Pro Asp His Thr
    690             695                 700

Phe Leu Asp Glu Lys Gly Arg Cys Val Pro Leu Ala Lys Cys Ser Cys
705             710                 715                 720

Tyr His Arg Gly Leu Tyr Leu Glu Ala Gly Asp Val Val Val Arg Gln
            725                 730                 735

Glu Glu Arg Cys Val Cys Arg Asp Gly Arg Leu His Cys Arg Gln Ile
        740             745                 750
```

```
Arg Leu Ile Gly Gln Ser Cys Thr Ala Pro Lys Ile His Met Asp Cys
        755             760             765

Ser Asn Leu Thr Ala Leu Ala Thr Ser Lys Pro Arg Ala Leu Ser Cys
    770             775             780

Gln Thr Leu Ala Ala Gly Tyr Tyr His Thr Glu Cys Val Ser Gly Cys
785             790             795             800

Val Cys Pro Asp Gly Leu Met Asp Asp Gly Arg Gly Gly Cys Val Val
            805             810             815

Glu Lys Glu Cys Pro Cys Val His Asn Asn Asp Leu Tyr Ser Ser Gly
            820             825             830

Ala Lys Ile Lys Val Asp Cys Asn Thr Cys Thr Cys Lys Arg Gly Arg
        835             840             845

Trp Val Cys Thr Gln Ala Val Cys His Gly Thr Cys Ser Ile Tyr Gly
    850             855             860

Ser Gly His Tyr Ile Thr Phe Asp Gly Lys Tyr Tyr Asp Phe Asp Gly
865             870             875             880

His Cys Ser Tyr Val Ala Val Gln Asp Tyr Cys Gly Gln Asn Ser Ser
            885             890             895

Leu Gly Ser Phe Ser Ile Ile Thr Glu Asn Val Pro Cys Gly Thr Thr
            900             905             910

Gly Val Thr Cys Ser Lys Ala Ile Lys Ile Phe Met Gly Arg Thr Glu
        915             920             925

Leu Lys Leu Glu Asp Lys His Arg Val Val Ile Gln Arg Asp Glu Gly
    930             935             940

His His Val Ala Tyr Thr Thr Arg Glu Val Gly Gln Tyr Leu Val Val
945             950             955             960

Glu Ser Ser Thr Gly Ile Ile Val Ile Trp Asp Lys Arg Thr Thr Val
            965             970             975

Phe Ile Lys Leu Ala Pro Ser Tyr Lys Gly Thr Val Cys Gly Leu Cys
        980             985             990
```

Gly Asn Phe Asp His Arg Ser Asn   Asn Asp Phe Thr Thr   Arg Asp His
          995   1000   1005

Met Val Val Ser Ser Glu Leu Asp Phe Gly Asn Ser Trp Lys Glu
    1010   1015   1020

Ala Pro Thr Cys Pro Asp Val Ser Thr Asn Pro Glu Pro Cys Ser
    1025   1030   1035

Leu Asn Pro His Arg Arg Ser Trp Ala Glu Lys Gln Cys Ser Ile
    1040   1045   1050

Leu Lys Ser Ser Val Phe Ser Ile Cys His Ser Lys Val Asp Pro
    1055   1060   1065

Lys Pro Phe Tyr Glu Ala Cys Val His Asp Ser Cys Ser Cys Asp
    1070   1075   1080

Thr Gly Gly Asp Cys Glu Cys Phe Cys Ser Ala Val Ala Ser Tyr
    1085   1090   1095

Ala Gln Glu Cys Thr Lys Glu Gly Ala Cys Val Phe Trp Arg Thr
    1100   1105   1110

Pro Asp Leu Cys Pro Ile Phe Cys Asp Tyr Tyr Asn Pro Pro His
    1115   1120   1125

Glu Cys Glu Trp His Tyr Glu Pro Cys Gly Asn Arg Ser Phe Glu
    1130   1135   1140

Thr Cys Arg Thr Ile Asn Gly Ile His Ser Asn Ile Ser Val Ser
    1145   1150   1155

Tyr Leu Glu Gly Cys Tyr Pro Arg Cys Pro Lys Asp Arg Pro Ile
    1160   1165   1170

Tyr Glu Glu Asp Leu Lys Lys Cys Val Thr Ala Asp Lys Cys Gly
    1175   1180   1185

Cys Tyr Val Glu Asp Thr His Tyr Pro Pro Gly Ala Ser Val Pro
    1190   1195   1200

Thr Glu Glu Thr Cys Lys Ser Cys Val Cys Thr Asn Ser Ser Gln

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                1205                    1210                    1215


    Val Val Cys Arg Pro Glu Glu  Gly Lys Ile Leu Asn  Gln Thr Gln
        1220                1225                1230


    Asp Gly Ala Phe Cys Tyr Trp  Glu Ile Cys Gly Pro  Asn Gly Thr
        1235                1240                1245


    Val Glu Lys His Phe Asn Ile  Cys Ser Ile Thr Thr  Arg Pro Ser
        1250                1255                1260


    Thr Leu Thr Thr Phe Thr Thr  Ile Thr Leu Pro Thr  Thr Pro Thr
        1265                1270                1275


    Ser Phe Thr Thr Thr Thr Thr  Thr Thr Thr Pro Thr  Ser Ser Thr
        1280                1285                1290


    Val Leu Ser Thr Thr Pro Lys  Leu Cys Cys Leu Trp  Ser Asp Trp
        1295                1300                1305


    Ile Asn Glu Asp His Pro Ser  Ser Gly Ser Asp Asp  Gly Asp Arg
        1310                1315                1320


    Glu Pro Phe Asp Gly Val Cys  Gly Ala Pro Glu Asp  Ile Glu Cys
        1325                1330                1335


    Arg Ser Val Lys Asp Pro His  Leu Ser Leu Glu Gln  His Gly Gln
        1340                1345                1350


    Lys Val Gln Cys Asp Val Ser  Val Gly Phe Ile Cys  Lys Asn Glu
        1355                1360                1365


    Asp Gln Phe Gly Asn Gly Pro  Phe Gly Leu Cys Tyr  Asp Tyr Lys
        1370                1375                1380


    Ile Arg Val Asn Cys Cys Trp  Pro Met Asp Lys Cys  Ile Thr Thr
        1385                1390                1395


    Pro Ser Pro Pro Thr Thr Thr  Pro Ser Pro Pro Pro  Thr Thr Thr
        1400                1405                1410


    Thr Thr Leu Pro Pro Thr Thr  Thr Pro Ser Pro Pro  Thr Thr Thr
        1415                1420                1425
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Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro Ile Thr
1430   1435   1440

Thr Thr Thr Thr Pro Leu Pro Thr Thr Thr Pro Ser Pro Pro Ile
1445   1450   1455

Ser Thr Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro
1460   1465   1470

Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr
1475   1480   1485

Thr Thr Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro
1490   1495   1500

Met Thr Thr Pro Ile Thr Pro Pro Ala Ser Thr Thr Thr Leu Pro
1505   1510   1515

Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr Thr Thr Thr Pro
1520   1525   1530

Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr Pro Ile Thr
1535   1540   1545

Pro Pro Thr Ser Thr Thr Thr Leu Pro Pro Thr Thr Thr Pro Ser
1550   1555   1560

Pro Pro Pro Thr Thr Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro
1565   1570   1575

Ser Pro Pro Thr Thr Thr Thr Pro Ser Pro Pro Thr Ile Thr Thr
1580   1585   1590

Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr Thr
1595   1600   1605

Thr Thr Thr Pro Pro Pro Thr Thr Thr Pro Ser Pro Pro Thr Thr
1610   1615   1620

Thr Pro Ile Thr Pro Pro Thr Ser Thr Thr Thr Leu Pro Pro Thr
1625   1630   1635

Thr Thr Pro Ser Pro Pro Pro Thr Thr Thr Thr Thr Pro Pro Pro
1640   1645   1650

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Thr Thr  Thr Pro Ser Pro Pro  Thr Thr Thr Thr Pro  Ser Pro Pro
    1655             1660             1665


Ile Thr  Thr Thr Thr Thr Pro  Pro Pro Thr Thr Thr  Pro Ser Ser
    1670             1675             1680


Pro Ile  Thr Thr Thr Pro Ser  Pro Pro Thr Thr Thr  Met Thr Thr
    1685             1690             1695


Pro Ser  Pro Thr Thr Thr Pro  Ser Ser Pro Ile Thr  Thr Thr Thr
    1700             1705             1710


Thr Pro  Ser Ser Thr Thr Thr  Pro Ser Pro Pro Pro  Thr Thr Met
    1715             1720             1725


Thr Thr  Pro Ser Pro Thr Thr  Thr Pro Ser Pro Pro  Thr Thr Thr
    1730             1735             1740


Met Thr  Thr Leu Pro Pro Thr  Thr Thr Ser Ser Pro  Leu Thr Thr
    1745             1750             1755


Thr Pro  Leu Pro Pro Ser Ile  Thr Pro Pro Thr Phe  Ser Pro Phe
    1760             1765             1770


Ser Thr  Thr Thr Pro Thr Thr  Pro Cys Val Pro Leu  Cys Asn Trp
    1775             1780             1785


Thr Gly  Trp Leu Asp Ser Gly  Lys Pro Asn Phe His  Lys Pro Gly
    1790             1795             1800


Gly Asp  Thr Glu Leu Ile Gly  Asp Val Cys Gly Pro  Gly Trp Ala
    1805             1810             1815


Ala Asn  Ile Ser Cys Arg Ala  Thr Met Tyr Pro Asp  Val Pro Ile
    1820             1825             1830


Gly Gln  Leu Gly Gln Thr Val  Val Cys Asp Val Ser  Val Gly Leu
    1835             1840             1845


Ile Cys  Lys Asn Glu Asp Gln  Lys Pro Gly Gly Val  Ile Pro Met
    1850             1855             1860


Ala Phe  Cys Leu Asn Tyr Glu  Ile Asn Val Gln Cys  Cys Glu Cys
    1865             1870             1875

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Val Thr  Gln Pro Thr Thr Met  Thr Thr Thr Thr  Glu Asn Pro
    1880             1885                1890

Thr Pro  Pro Thr Thr Thr Pro  Ile Thr Thr Thr  Thr Val Thr
    1895             1900                1905

Pro Thr  Pro Thr Pro Thr Gly  Thr Gln Thr Pro  Thr Thr Pro
    1910             1915                1920

Ile Thr  Thr Thr Thr Thr Val  Thr Pro Thr Pro  Thr Pro Thr Gly
    1925             1930                1935

Thr Gln  Thr Pro Thr Thr Thr  Pro Ile Thr Thr Thr  Thr Thr Val
    1940             1945                1950

Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr
    1955             1960                1965

Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr
    1970             1975                1980

Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile Thr Thr  Thr Thr Thr
    1985             1990                1995

Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr Gln Thr  Pro Thr Thr
    2000             2005                2010

Thr Pro  Ile Thr Thr Thr Thr  Thr Val Thr Pro Thr  Pro Thr Pro
    2015             2020                2025

Thr Gly  Thr Gln Thr Pro Thr  Thr Thr Pro Ile Thr  Thr Thr Thr
    2030             2035                2040

Thr Val  Thr Pro Thr Pro Thr  Pro Thr Gly Thr Gln  Thr Pro Thr
    2045             2050                2055

Thr Thr  Pro Ile Thr Thr Thr  Thr Thr Val Thr Pro  Thr Pro Thr
    2060             2065                2070

Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr Pro Ile  Thr Thr Thr
    2075             2080                2085

Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr Gly Thr  Gln Thr Pro
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2090   2095   2100

Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
 2105   2110   2115

Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
 2120   2125   2130

Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
 2135   2140   2145

Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr
 2150   2155   2160

Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
 2165   2170   2175

Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
 2180   2185   2190

Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
 2195   2200   2205

Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
 2210   2215   2220

Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
 2225   2230   2235

Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
 2240   2245   2250

Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
 2255   2260   2265

Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
 2270   2275   2280

Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
 2285   2290   2295

Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
 2300   2305   2310

Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr
    2315   2320   2325

Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
    2330   2335   2340

Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr
    2345   2350   2355

Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro
    2360   2365   2370

Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr
    2375   2380   2385

Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
    2390   2395   2400

Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
    2405   2410   2415

Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr
    2420   2425   2430

Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
    2435   2440   2445

Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
    2450   2455   2460

Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
    2465   2470   2475

Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
    2480   2485   2490

Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr
    2495   2500   2505

Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
    2510   2515   2520

Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
    2525   2530   2535

Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
    2540   2545   2550

Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
    2555   2560   2565

Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
    2570   2575   2580

Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
    2585   2590   2595

Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
    2600   2605   2610

Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
    2615   2620   2625

Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val
    2630   2635   2640

Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr
    2645   2650   2655

Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr
    2660   2665   2670

Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr
    2675   2680   2685

Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr
    2690   2695   2700

Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro
    2705   2710   2715

Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr
    2720   2725   2730

Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
    2735   2740   2745

Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
    2750   2755   2760

Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr
    2765   2770   2775

Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
    2780   2785   2790

Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
    2795   2800   2805

Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
    2810   2815   2820

Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
    2825   2830   2835

Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Val Thr Pro Thr
    2840   2845   2850

Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
    2855   2860   2865

Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
    2870   2875   2880

Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
    2885   2890   2895

Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
    2900   2905   2910

Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
    2915   2920   2925

Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
    2930   2935   2940

Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
    2945   2950   2955

Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly
    2960   2965   2970

Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val

   2975   2980   2985

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Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr
    2990                 2995              3000

Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr
    3005                 3010              3015

Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile Thr Thr  Thr Thr Thr
    3020                 3025              3030

Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr Gln Thr  Pro Thr Thr
    3035                 3040              3045

Thr Pro  Ile Thr Thr Thr Thr  Thr Val Thr Pro Thr  Pro Thr Pro
    3050                 3055              3060

Thr Gly  Thr Gln Thr Pro Thr  Thr Thr Pro Ile Thr  Thr Thr Thr
    3065                 3070              3075

Thr Val  Thr Pro Thr Pro Thr  Pro Thr Gly Thr Gln  Thr Pro Thr
    3080                 3085              3090

Thr Thr  Pro Ile Thr Thr Thr  Thr Thr Val Thr Pro  Thr Pro Thr
    3095                 3100              3105

Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr Pro Ile  Thr Thr Thr
    3110                 3115              3120

Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr Gly Thr  Gln Thr Pro
    3125                 3130              3135

Thr Thr  Thr Pro Ile Thr Thr  Thr Thr Thr Val Thr  Pro Thr Pro
    3140                 3145              3150

Thr Pro  Thr Gly Thr Gln Thr  Pro Thr Thr Thr Pro  Ile Thr Thr
    3155                 3160              3165

Thr Thr  Thr Val Thr Pro Thr  Pro Thr Pro Thr Gly  Thr Gln Thr
    3170                 3175              3180

Pro Thr  Thr Thr Pro Ile Thr  Thr Thr Thr Thr Val  Thr Pro Thr
    3185                 3190              3195
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Pro Thr  Pro Thr Gly Thr Gln  Thr Pro Thr Thr Thr  Pro Ile Thr
    3200             3205              3210

Thr Thr  Thr Thr Val Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln
    3215             3220              3225

Thr Pro  Thr Thr Thr Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro
    3230   .          3235              3240

Thr Pro  Thr Pro Thr Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile
    3245             3250              3255

Thr Thr  Thr Thr Thr Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr
    3260             3265              3270

Gln Thr  Pro Thr Thr Thr Pro  Ile Thr Thr Thr Thr  Thr Val Thr
    3275             3280              3285

Pro Thr  Pro Thr Pro Thr Gly  Thr Gln Thr Pro Thr  Thr Thr Pro
    3290             3295              3300

Ile Thr  Thr Thr Thr Thr Val  Thr Pro Thr Pro Thr  Pro Thr Gly
    3305             3310              3315

Thr Gln  Thr Pro Thr Thr Thr  Pro Ile Thr Thr Thr  Thr Thr Val
    3320             3325              3330

Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr
    3335             3340              3345

Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr
    3350             3355              3360

Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile Thr Thr  Thr Thr Thr
    3365             3370              3375

Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr Gln Thr  Pro Thr Thr
    3380             3385              3390

Thr Pro  Ile Thr Thr Thr Thr  Thr Val Thr Pro Thr  Pro Thr Pro
    3395             3400              3405

Thr Gly  Thr Gln Thr Pro Thr  Thr Thr Pro Ile Thr  Thr Thr Thr
    3410             3415              3420
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Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr
    3425   3430   3435

Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr
    3440   3445   3450

Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr
    3455   3460   3465

Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro
    3470   3475   3480

Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr Pro
    3485   3490   3495

Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr
    3500   3505   3510

Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr
    3515   3520   3525

Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro Thr
    3530   3535   3540

Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile Thr
    3545   3550   3555

Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr Gln
    3560   3565   3570

Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr Pro
    3575   3580   3585

Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro Ile
    3590   3595   3600

Thr Thr Thr Thr Thr Val Thr Pro Thr Pro Thr Pro Thr Gly Thr
    3605   3610   3615

Gln Thr Pro Thr Thr Thr Pro Ile Thr Thr Thr Thr Thr Val Thr
    3620   3625   3630

Pro Thr Pro Thr Pro Thr Gly Thr Gln Thr Pro Thr Thr Thr Pro
    3635   3640   3645

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Ile Thr   Thr Thr Thr Thr Val   Thr Pro Thr Pro Thr   Pro Thr Gly
    3650                  3655                3660

Thr Gln   Thr Pro Thr Thr Thr   Pro Ile Thr Thr Thr   Thr Thr Val
    3665                  3670                3675

Thr Pro   Thr Pro Thr Pro Thr   Gly Thr Gln Thr Pro   Thr Thr Thr
    3680                  3685                3690

Pro Ile   Thr Thr Thr Thr Thr   Val Thr Pro Thr Pro   Thr Pro Thr
    3695                  3700                3705

Gly Thr   Gln Thr Pro Thr Thr   Thr Pro Ile Thr Thr   Thr Thr Thr
    3710                  3715                3720

Val Thr   Pro Thr Pro Thr Pro   Thr Gly Thr Gln Thr   Pro Thr Thr
    3725                  3730                3735

Thr Pro   Ile Thr Thr Thr Thr   Thr Val Thr Pro Thr   Pro Thr Pro
    3740                  3745                3750

Thr Gly   Thr Gln Thr Pro Thr   Thr Thr Pro Ile Thr   Thr Thr Thr
    3755                  3760                3765

Thr Val   Thr Pro Thr Pro Thr   Pro Thr Gly Thr Gln   Thr Pro Thr
    3770                  3775                3780

Thr Thr   Pro Ile Thr Thr Thr   Thr Thr Val Thr Pro   Thr Pro Thr
    3785                  3790                3795

Pro Thr   Gly Thr Gln Thr Pro   Thr Thr Thr Pro Ile   Thr Thr Thr
    3800                  3805                3810

Thr Thr   Val Thr Pro Thr Pro   Thr Pro Thr Gly Thr   Gln Thr Pro
    3815                  3820                3825

Thr Thr   Thr Pro Ile Thr Thr   Thr Thr Thr Val Thr   Pro Thr Pro
    3830                  3835                3840

Thr Pro   Thr Gly Thr Gln Thr   Pro Thr Thr Thr Pro   Ile Thr Thr
    3845                  3850                3855

Thr Thr   Thr Val Thr Pro Thr   Pro Thr Pro Thr Gly   Thr Gln Thr
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    3860                    3865                    3870


Pro Thr  Thr Thr Pro Ile Thr  Thr Thr Thr Thr Val  Thr Pro Thr
    3875                    3880                    3885


Pro Thr  Pro Thr Gly Thr Gln  Thr Pro Thr Thr Thr  Pro Ile Thr
    3890                    3895                    3900


Thr Thr  Thr Thr Val Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln
    3905                    3910                    3915


Thr Pro  Thr Thr Thr Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro
    3920                    3925                    3930


Thr Pro  Thr Pro Thr Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile
    3935                    3940                    3945


Thr Thr  Thr Thr Thr Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr
    3950                    3955                    3960


Gln Thr  Pro Thr Thr Thr Pro  Ile Thr Thr Thr Thr  Thr Val Thr
    3965                    3970                    3975


Pro Thr  Pro Thr Pro Thr Gly  Thr Gln Thr Pro Thr  Thr Thr Pro
    3980                    3985                    3990


Ile Thr  Thr Thr Thr Thr Val  Thr Pro Thr Pro Thr  Pro Thr Gly
    3995                    4000                    4005


Thr Gln  Thr Pro Thr Thr Thr  Pro Ile Thr Thr Thr  Thr Thr Val
    4010                    4015                    4020


Thr Pro  Thr Pro Thr Pro Thr  Gly Thr Gln Thr Pro  Thr Thr Thr
    4025                    4030                    4035


Pro Ile  Thr Thr Thr Thr Thr  Val Thr Pro Thr Pro  Thr Pro Thr
    4040                    4045                    4050


Gly Thr  Gln Thr Pro Thr Thr  Thr Pro Ile Thr Thr  Thr Thr Thr
    4055                    4060                    4065


Val Thr  Pro Thr Pro Thr Pro  Thr Gly Thr Gln Thr  Pro Thr Thr
    4070                    4075                    4080
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Thr Pro  Ile Thr Thr Thr Thr   Thr Val Thr Pro Thr  Pro Thr Pro
    4085                4090                4095

Thr Gly  Thr Gln Thr Pro Thr   Thr Thr Pro Ile Thr  Thr Thr Thr
    4100                4105                4110

Thr Val  Thr Pro Thr Pro Thr   Pro Thr Gly Thr Gln  Thr Pro Thr
    4115                4120                4125

Thr Thr  Pro Ile Thr Thr Thr   Thr Thr Val Thr Pro  Thr Pro Thr
    4130                4135                4140

Pro Thr  Gly Thr Gln Thr Pro   Thr Thr Thr Pro Ile  Thr Thr Thr
    4145                4150                4155

Thr Thr  Val Thr Pro Thr Pro   Thr Pro Thr Gly Thr  Gln Thr Pro
    4160                4165                4170

Thr Thr  Thr Pro Ile Thr Thr   Thr Thr Thr Val Thr  Pro Thr Pro
    4175                4180                4185

Thr Pro  Thr Gly Thr Gln Thr   Gly Pro Pro Thr His  Thr Ser Thr
    4190                4195                4200

Ala Pro  Ile Ala Glu Leu Thr   Thr Ser Asn Pro Pro  Pro Glu Ser
    4205                4210                4215

Ser Thr  Pro Gln Thr Ser Arg   Ser Thr Ser Ser Pro  Leu Thr Glu
    4220                4225                4230

Ser Thr  Thr Leu Leu Ser Thr   Leu Pro Pro Ala Ile  Glu Met Thr
    4235                4240                4245

Ser Thr  Ala Pro Pro Ser Thr   Pro Thr Ala Pro Thr  Thr Thr Ser
    4250                4255                4260

Gly Gly  His Thr Leu Ser Pro   Pro Pro Ser Thr Thr  Thr Ser Pro
    4265                4270                4275

Pro Gly  Thr Pro Thr Arg Gly   Thr Thr Thr Gly Ser  Ser Ser Ala
    4280                4285                4290

Pro Thr  Pro Ser Thr Val Gln   Thr Thr Thr Thr Ser  Ala Trp Thr
    4295                4300                4305
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Pro Thr Pro Thr Pro Leu Ser Thr Pro Ser Ile Ile Arg Thr Thr
    4310   4315   4320

Gly Leu Arg Pro Tyr Pro Ser Ser Val Leu Ile Cys Cys Val Leu
    4325   4330   4335

Asn Asp Thr Tyr Tyr Ala Pro Gly Glu Glu Val Tyr Asn Gly Thr
    4340   4345   4350

Tyr Gly Asp Thr Cys Tyr Phe Val Asn Cys Ser Leu Ser Cys Thr
    4355   4360   4365

Leu Glu Phe Tyr Asn Trp Ser Cys Pro Ser Thr Pro Ser Pro Thr
    4370   4375   4380

Pro Thr Pro Ser Lys Ser Thr Pro Thr Pro Ser Lys Pro Ser Ser
    4385   4390   4395

Thr Pro Ser Lys Pro Thr Pro Gly Thr Lys Pro Pro Glu Cys Pro
    4400   4405   4410

Asp Phe Asp Pro Pro Arg Gln Glu Asn Glu Thr Trp Trp Leu Cys
    4415   4420   4425

Asp Cys Phe Met Ala Thr Cys Lys Tyr Asn Asn Thr Val Glu Ile
    4430   4435   4440

Val Lys Val Glu Cys Glu Pro Pro Pro Met Pro Thr Cys Ser Asn
    4445   4450   4455

Gly Leu Gln Pro Val Arg Val Glu Asp Pro Asp Gly Cys Cys Trp
    4460   4465   4470

His Trp Glu Cys Asp Cys Tyr Cys Thr Gly Trp Gly Asp Pro His
    4475   4480   4485

Tyr Val Thr Phe Asp Gly Leu Tyr Tyr Ser Tyr Gln Gly Asn Cys
    4490   4495   4500

Thr Tyr Val Leu Val Glu Glu Ile Ser Pro Ser Val Asp Asn Phe
    4505   4510   4515

Gly Val Tyr Ile Asp Asn Tyr His Cys Asp Pro Asn Asp Lys Val
    4520   4525   4530

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Ser Cys Pro Arg Thr Leu Ile Val Arg His Glu Thr Gln Glu Val
    4535   4540   4545

Leu Ile Lys Thr Val His Met Met Pro Met Gln Val Gln Val Gln
    4550   4555   4560

Val Asn Arg Gln Ala Val Ala Leu Pro Tyr Lys Lys Tyr Gly Leu
    4565   4570   4575

Glu Val Tyr Gln Ser Gly Ile Asn Tyr Val Val Asp Ile Pro Glu
    4580   4585   4590

Leu Gly Val Leu Val Ser Tyr Asn Gly Leu Ser Phe Ser Val Arg
    4595   4600   4605

Leu Pro Tyr His Arg Phe Gly Asn Asn Thr Lys Gly Gln Cys Gly
    4610   4615   4620

Thr Cys Thr Asn Thr Thr Ser Asp Asp Cys Ile Leu Pro Ser Gly
    4625   4630   4635

Glu Ile Val Ser Asn Cys Glu Ala Ala Ala Asp Gln Trp Leu Val
    4640   4645   4650

Asn Asp Pro Ser Lys Pro His Cys Pro His Ser Ser Ser Thr Thr
    4655   4660   4665

Lys Arg Pro Ala Val Thr Val Pro Gly Gly Gly Lys Thr Thr Pro
    4670   4675   4680

His Lys Asp Cys Thr Pro Ser Pro Leu Cys Gln Leu Ile Lys Asp
    4685   4690   4695

Ser Leu Phe Ala Gln Cys His Ala Leu Val Pro Pro Gln His Tyr
    4700   4705   4710

Tyr Asp Ala Cys Val Phe Asp Ser Cys Phe Met Pro Gly Ser Ser
    4715   4720   4725

Leu Glu Cys Ala Ser Leu Gln Ala Tyr Ala Ala Leu Cys Ala Gln
    4730   4735   4740

Gln Asn Ile Cys Leu Asp Trp Arg Asn His Thr His Gly Ala Cys

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        4745                    4750                        4755

   Leu Val  Glu Cys Pro Ser His  Arg Glu Tyr Gln Ala  Cys Gly Pro
        4760                4765                    4770


   Ala Glu  Glu Pro Thr Cys Lys  Ser Ser Ser Ser Gln  Gln Asn Asn
        4775                4780                    4785


   Thr Val  Leu Val Glu Gly Cys  Phe Cys Pro Glu Gly  Thr Met Asn
        4790                4795                    4800


   Tyr Ala  Pro Gly Phe Asp Val  Cys Val Lys Thr Cys  Gly Cys Val
        4805                4810                    4815


   Gly Pro  Asp Asn Val Pro Arg  Glu Phe Gly Glu His  Phe Glu Phe
        4820                4825                    4830


   Asp Cys  Lys Asn Cys Val Cys  Leu Glu Gly Gly Ser  Gly Ile Ile
        4835                4840                    4845


   Cys Gln  Pro Lys Arg Cys Ser  Gln Lys Pro Val Thr  His Cys Val
        4850                4855                    4860


   Glu Asp  Gly Thr Tyr Leu Ala  Thr Glu Val Asn Pro  Ala Asp Thr
        4865                4870                    4875


   Cys Cys  Asn Ile Thr Val Cys  Lys Cys Asn Thr Ser  Leu Cys Lys
        4880                4885                    4890


   Glu Lys  Pro Ser Val Cys Pro  Leu Gly Phe Glu Val  Lys Ser Lys
        4895                4900                    4905


   Met Val  Pro Gly Arg Cys Cys  Pro Phe Tyr Trp Cys  Glu Ser Lys
        4910                4915                    4920


   Gly Val  Cys Val His Gly Asn  Ala Glu Tyr Gln Pro  Gly Ser Pro
        4925                4930                    4935


   Val Tyr  Ser Ser Lys Cys Gln  Asp Cys Val Cys Thr  Asp Lys Val
        4940                4945                    4950


   Asp Asn  Asn Thr Leu Leu Asn  Val Ile Ala Cys Thr  His Val Pro
        4955                4960                    4965
```

```
Cys Asn Thr Ser Cys Ser Pro  Gly Phe Glu Leu Met  Glu Ala Pro
    4970             4975              4980

Gly Glu Cys Cys Lys Lys Cys  Glu Gln Thr His Cys  Ile Ile Lys
    4985             4990              4995

Arg Pro Asp Asn Gln His Val  Ile Leu Lys Pro Gly  Asp Phe Lys
    5000             5005              5010

Ser Asp Pro Lys Asn Asn Cys  Thr Phe Phe Ser Cys  Val Lys Ile
    5015             5020              5025

His Asn Gln Leu Ile Ser Ser  Val Ser Asn Ile Thr  Cys Pro Asn
    5030             5035              5040

Phe Asp Ala Ser Ile Cys Ile  Pro Gly Ser Ile Thr  Phe Met Pro
    5045             5050              5055

Asn Gly Cys Cys Lys Thr Cys  Thr Pro Arg Asn Glu  Thr Arg Val
    5060             5065              5070

Pro Cys Ser Thr Val Pro Val  Thr Thr Glu Val Ser  Tyr Ala Gly
    5075             5080              5085

Cys Thr Lys Thr Val Leu Met  Asn His Cys Ser Gly  Ser Cys Gly
    5090             5095              5100

Thr Phe Val Met Tyr Ser Ala  Lys Ala Gln Ala Leu  Asp His Ser
    5105             5110              5115

Cys Ser Cys Cys Lys Glu Glu  Lys Thr Ser Gln Arg  Glu Val Val
    5120             5125              5130

Leu Ser Cys Pro Asn Gly Gly  Ser Leu Thr His Thr  Tyr Thr His
    5135             5140              5145

Ile Glu Ser Cys Gln Cys Gln  Asp Thr Val Cys Gly  Leu Pro Thr
    5150             5155              5160

Gly Thr Ser Arg Arg Ala Arg  Arg Ser Pro Arg His  Leu Gly Ser
    5165             5170              5175

Gly
```

```
<210>    152
<211>    878
<212>    PRT
<213>    Human

<400>    152

Thr Ile Tyr Ser Thr Val Ser Ser Ser Thr Thr Ala Ile Thr Ser Pro
1               5                   10                  15

Phe Thr Thr Ala Glu Thr Gly Val Thr Ser Thr Pro Ser Ser Pro Ser
            20              ·   25                  30

Ser Leu Ser Thr Asp Ile Pro Thr Thr Ser Leu Arg Thr Leu Thr Pro
        35                  40                  45

Leu Ser Leu Ser Thr Ser Thr Ser Leu Thr Thr Thr Asp Leu Pro
        50                  55                  60

Ser Ile Pro Thr Asp Ile Ser Ser Leu Pro Thr Pro Ile His Ile Ile
65                  70                  75                  80

Ser Ser Ser Pro Ser Ile Gln Ser Thr Glu Thr Ser Ser Leu Val Gly
                85                  90                  95

Thr Thr Ser Pro Thr Met Ser Thr Val Arg Ala Thr Leu Arg Ser Thr
            100                 105                 110

Glu Asn Thr Pro Ile Ser Ser Phe Ser Thr Ser Ile Val Val Thr Pro
        115                 120                 125

Glu Thr Pro Thr Thr Gln Ala Pro Pro Val Leu Met Ser Ala Thr Gly
    130                 135                 140

Thr Gln Thr Ser Pro Val Pro Thr Thr Val Thr Phe Gly Ser Met Asp
145                 150                 155                 160

Ser Ser Thr Ser Thr Leu His Thr Leu Thr Pro Ser Thr Ala Leu Ser
                165                 170                 175

Lys Ile Met Ser Thr Ser Gln Phe Pro Ile Pro Ser Thr His Ser Ser
            180                 185                 190

Thr Leu Gln Thr Thr Pro Ser Ile Pro Ser Leu Gln Thr Ser Leu Thr
        195                 200                 205
```

Ser Thr Ser Glu Phe Thr Thr Glu Ser Phe Thr Arg Gly Ser Thr Ser
    210   215   220

Thr Asn Ala Ile Leu Thr Ser Phe Ser Thr Ile Ile Trp Ser Ser Thr
225   230   235   240

Pro Thr Ile Ile Met Ser Ser Ser Pro Ser Ser Ala Ser Ile Thr Pro
                245   250   255

Val Phe Ala Thr Thr Ile His Ser Val Pro Ser Ser Pro Tyr Ile Phe
            260   265   270

Ser Thr Glu Asn Val Gly Ser Ala Ser Ile Thr Ala Phe Pro Ser Leu
        275   280   285

Ser Ser Ser Ser Thr Thr Ser Thr Ser Pro Thr Ser Ser Ser Leu Thr
    290   295   300

Thr Ala Leu Thr Glu Ile Thr Pro Phe Ser Tyr Ile Ser Leu Pro Ser
305   310   315   320

Thr Thr Pro Cys Pro Gly Thr Ile Thr Ile Thr Ile Val Pro Ala Ser
            325   330   335

Pro Thr Asp Pro Cys Val Glu Met Asp Pro Ser Thr Glu Ala Thr Ser
        340   345   350

Pro Pro Thr Thr Pro Leu Thr Val Phe Pro Phe Thr Thr Glu Met Val
        355   360   365

Thr Cys Pro Ser Ser Ile Ser Met Gln Thr Thr Leu Ala Thr His Met
    370   375   380

Asp Thr Ser Ser Met Thr Pro Glu Ser Glu Ser Ser Ile Ile Pro Asn
385   390   395   400

Ala Ser Ser Ser Thr Gly Thr Gly Thr Val Pro Thr Asn Thr Val Phe
            405   410   415

Thr Ser Thr Arg Leu Pro Thr Ser Glu Thr Trp Leu Ser Asn Asn Ser
        420   425   430

Val Ile Pro Thr Pro Leu Pro Gly Val Ser Thr Ile Pro Leu Thr Met
        435   440   445

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Lys Pro Ser Ser Ser Leu Pro Thr Ile Leu Arg Thr Ser Ser Lys Ser
    450   455   460

Thr His Pro Ser Pro Pro Thr Ala Arg Thr Ser Glu Thr Ser Val Ala
465   470   475   480

Thr Thr Gln Thr Pro Thr Thr Leu Thr Thr Arg Arg Thr Thr Pro Ile
            485   490   495

Thr Ser Trp Met Thr Thr Gln Ser Thr Leu Thr Thr Thr Ala Gly Thr
        500   505   510

Cys Asp Asn Gly Gly Thr Trp Glu Gln Gly Gln Cys Ala Cys Leu Pro
        515   520   525

Gly Phe Ser Gly Asp Arg Cys Gln Leu Gln Thr Arg Cys Gln Asn Gly
    530   535   540

Gly Gln Trp Asp Gly Leu Lys Cys Gln Cys Pro Ser Thr Phe Tyr Gly
545   550   555   560

Ser Ser Cys Glu Phe Ala Val Glu Gln Val Asp Leu Asp Val Val Glu
            565   570   575

Thr Glu Val Gly Met Glu Val Ser Val Asp Gln Gln Phe Ser Pro Asp
            580   585   590

Leu Asn Asp Asn Thr Ser Gln Ala Tyr Arg Asp Phe Asn Lys Thr Phe
    595   600   605

Trp Asn Gln Met Gln Lys Ile Phe Ala Asp Met Gln Gly Phe Thr Phe
    610   615   620

Lys Gly Val Glu Ile Leu Ser Leu Arg Asn Gly Ser Ile Val Val Asp
625   630   635   640

Tyr Leu Val Leu Leu Glu Met Pro Phe Ser Pro Gln Leu Glu Ser Glu
            645   650   655

Tyr Glu Gln Val Lys Thr Thr Leu Lys Glu Gly Leu Gln Asn Ala Ser
            660   665   670

Gln Asp Ala Asn Ser Cys Gln Asp Ser Gln Thr Leu Cys Phe Lys Pro

```
              675                      680                       685
```

```
Asp Ser Ile Lys Val Asn Asn Asn Ser Lys Thr Glu Leu Thr Pro Glu
        690               695               700
```

```
Ala Ile Cys Arg Arg Ala Ala Pro Thr Gly Tyr Glu Glu Phe Tyr Phe
705               710               715               720
```

```
Pro Leu Val Glu Ala Thr Arg Leu Arg Cys Val Thr Lys Cys Thr Ser
                725               730               735
```

```
Gly Val Asp Asn Ala Ile Asp Cys His Gln Gly Gln Cys Val Leu Glu
                740               745               750
```

```
Thr Ser Gly Pro Ala Cys Arg Cys Tyr Ser Thr Asp Thr His Trp Phe
            755               760               765
```

```
Ser Gly Pro Arg Cys Glu Val Ala Val His Trp Arg Ala Leu Val Gly
    770               775               780
```

```
Gly Leu Thr Ala Gly Ala Ala Leu Leu Val Leu Leu Leu Leu Ala Leu
785               790               795               800
```

```
Gly Val Arg Ala Val Arg Ser Gly Trp Trp Gly Gly Gln Arg Arg Gly
                805               810               815
```

```
Arg Ser Trp Asp Gln Asp Arg Lys Trp Phe Glu Thr Trp Asp Glu Glu
            820               825               830
```

```
Val Val Gly Thr Phe Ser Asn Trp Gly Phe Glu Asp Asp Gly Thr Asp
        835               840               845
```

```
Lys Asp Thr Asn Phe His Val Ala Leu Glu Asn Val Asp Thr Thr Met
    850               855               860
```

```
Lys Val His Ile Lys Arg Pro Glu Met Thr Ser Ser Ser Val
865               870               875
```

```
<210>   153
<211>   1938
<212>   PRT
<213>   Human

<400>   153

Met Ser Ser Asp Ala Glu Met Ala Ile Phe Gly Glu Ala Ala Pro Tyr
```

```
1                   5                        10                         15


    Leu Arg Lys Pro Glu Lys Glu Arg Ile Glu Ala Gln Asn Arg Pro Phe
                20                      25                  30


    Asp Ser Lys Lys Ala Cys Phe Val Ala Asp Asn Lys Glu Met Tyr Val
                35              40                  45


    Lys Gly Met Ile Gln Thr Arg Glu Asn Asp Lys Val Ile Val Lys Thr
                50                  55                  60


    Leu Asp Asp Arg Met Leu Thr Leu Asn Asn Asp Gln Val Phe Pro Met
    65              70                  75                  80


    Asn Pro Pro Lys Phe Asp Lys Ile Glu Asp Met Ala Met Met Thr His
                    85                  90                  95


    Leu His Glu Pro Ala Val Leu Tyr Asn Leu Lys Glu Arg Tyr Ala Ala
                100             105                 110


    Trp Met Ile Tyr Thr Tyr Ser Gly Leu Phe Cys Val Thr Val Asn Pro
                115                 120                 125


    Tyr Lys Trp Leu Pro Val Tyr Lys Pro Glu Val Val Ala Ala Tyr Arg
        130                 135                 140


    Gly Lys Lys Arg Gln Glu Ala Pro Pro His Ile Phe Ser Ile Ser Asp
    145                 150                 155                 160


    Asn Ala Tyr Gln Phe Met Leu Thr Asp Arg Asp Asn Gln Ser Ile Leu
                    165                 170                 175


    Ile Thr Gly Glu Ser Gly Ala Gly Lys Thr Val Asn Thr Lys Arg Val
                180                 185                 190


    Ile Gln Tyr Phe Ala Thr Ile Ala Val Thr Gly Asp Lys Lys Lys Glu
            195                 200                 205


    Thr Gln Pro Gly Lys Met Gln Gly Thr Leu Glu Asp Gln Ile Ile Gln
        210                 215                 220


    Ala Asn Pro Leu Leu Glu Ala Phe Gly Asn Ala Lys Thr Val Arg Asn
    225                 230                 235                 240
```

Asp Asn Ser Ser Arg Phe Gly Lys Phe Ile Arg Ile His Phe Gly Ala
                    245   250   255

Thr Gly Lys Leu Ala Ser Ala Asp Ile Glu Thr Tyr Leu Leu Glu Lys
                260   265   270

Ser Arg Val Thr Phe Gln Leu Ser Ser Glu Arg Ser Tyr His Ile Phe
            275   280   285

Tyr Gln Ile Met Ser Asn Lys Lys Pro Glu Leu Ile Asp Leu Leu Leu
        290   295   300

Ile Ser Thr Asn Pro Phe Asp Phe Pro Phe Val Ser Gln Gly Glu Val
305   310   315   320

Thr Val Ala Ser Ile Asp Asp Ser Glu Glu Leu Leu Ala Thr Asp Asn
                325   330   335

Ala Ile Asp Ile Leu Gly Phe Ser Ser Glu Glu Lys Val Gly Ile Tyr
            340   345   350

Lys Leu Thr Gly Ala Val Met His Tyr Gly Asn Met Lys Phe Lys Gln
            355   360   365

Lys Gln Arg Glu Glu Gln Ala Glu Pro Asp Gly Thr Glu Val Ala Asp
    370   375   380

Lys Ala Gly Tyr Leu Met Gly Leu Asn Ser Ala Glu Met Leu Lys Gly
385   390   395   400

Leu Cys Cys Pro Arg Val Lys Val Gly Asn Glu Tyr Val Thr Lys Gly
                405   410   415

Gln Asn Val Gln Gln Val Thr Asn Ser Val Gly Ala Leu Ala Lys Ala
            420   425   430

Val Tyr Glu Lys Met Phe Leu Trp Met Val Thr Arg Ile Asn Gln Gln
        435   440   445

Leu Asp Thr Lys Gln Pro Arg Gln Tyr Phe Ile Gly Val Leu Asp Ile
    450   455   460

Ala Gly Phe Glu Ile Phe Asp Phe Asn Ser Leu Glu Gln Leu Cys Ile
465   470   475   480

Asn Phe Thr Asn Glu Lys Leu Gln Gln Phe Phe Asn His His Met Phe
                485   490   495

Val Leu Glu Gln Glu Glu Tyr Lys Lys Glu Gly Ile Glu Trp Glu Phe
                500   505   510

Ile Asp Phe Gly Met Asp Leu Ala Ala Cys Ile Glu Leu Ile Glu Lys
            515   520   525

Pro Met Gly Ile Phe Ser Ile Leu Glu Glu Glu Cys Met Phe Pro Lys
        530   535   540

Ala Thr Asp Thr Ser Phe Lys Asn Lys Leu Tyr Asp Gln His Leu Gly
545   550   555   560

Lys Ser Asn Asn Phe Gln Lys Pro Lys Pro Ala Lys Gly Lys Ala Glu
                565   570   575

Ala His Phe Ser Leu Val His Tyr Ala Gly Thr Val Asp Tyr Asn Ile
            580   585   590

Ala Gly Trp Leu Asp Lys Asn Lys Asp Pro Leu Asn Glu Thr Val Val
            595   600   605

Gly Leu Tyr Gln Lys Ser Ser Leu Lys Leu Leu Ser Phe Leu Phe Ser
    610   615   620

Asn Tyr Ala Gly Ala Glu Thr Gly Asp Ser Gly Gly Ser Lys Lys Gly
625   630   635   640

Gly Lys Lys Lys Gly Ser Ser Phe Gln Thr Val Ser Ala Val Phe Arg
            645   650   655

Glu Asn Leu Asn Lys Leu Met Thr Asn Leu Arg Ser Thr His Pro His
            660   665   670

Phe Val Arg Cys Leu Ile Pro Asn Glu Thr Lys Thr Pro Gly Val Met
        675   680   685

Asp His Tyr Leu Val Met His Gln Leu Arg Cys Asn Gly Val Leu Glu
    690   695   700

Gly Ile Arg Ile Cys Arg Lys Gly Phe Pro Ser Arg Ile Leu Tyr Ala
705   710   715   720

Asp Phe Lys Gln Arg Tyr Arg Ile Leu Asn Ala Ser Ala Ile Pro Glu
                725   730   735

Gly Gln Phe Ile Asp Ser Lys Asn Ala Ser Glu Lys Leu Leu Asn Ser
            740   745   750

Ile Asp Val Asp Arg Glu Gln Phe Arg Phe Gly Asn Thr Lys Val Phe
        755   760   765

Phe Lys Ala Gly Leu Leu Gly Leu Leu Glu Glu Met Arg Asp Glu Lys
    770   775   780

Leu Val Thr Leu Met Thr Ser Thr Gln Ala Val Cys Arg Gly Tyr Leu
785   790   795   800

Met Arg Val Glu Phe Lys Lys Met Met Glu Arg Arg Asp Ser Ile Phe
            805   810   815

Cys Ile Gln Tyr Asn Ile Arg Ser Phe Met Asn Val Lys His Trp Pro
        820   825   830

Trp Met Asn Leu Phe Phe Lys Ile Lys Pro Leu Leu Lys Ser Ala Glu
        835   840   845

Ala Glu Lys Glu Met Ala Thr Met Lys Glu Asp Phe Glu Arg Thr Lys
    850   855   860

Glu Glu Leu Ala Arg Ser Glu Ala Arg Arg Lys Glu Leu Glu Glu Lys
865   870   875   880

Met Val Ser Leu Leu Gln Glu Lys Asn Asp Leu Gln Leu Gln Val Gln
            885   890   895

Ser Glu Thr Glu Asn Leu Met Asp Ala Glu Glu Arg Cys Glu Gly Leu
            900   905   910

Ile Lys Ser Lys Ile Leu Leu Glu Ala Lys Val Lys Glu Leu Thr Glu
        915   920   925

Arg Leu Glu Glu Glu Glu Glu Met Asn Ser Glu Leu Val Ala Lys Lys
    930   935   940

Arg Asn Leu Glu Asp Lys Cys Ser Ser Leu Lys Arg Asp Ile Asp Asp

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945   950   955   960

Leu Glu Leu Thr Leu Thr Lys Val Glu Lys Glu Lys His Ala Thr Glu
                     965   970   975

Asn Lys Val Lys Asn Leu Ser Glu Glu Met Thr Ala Leu Glu Glu Asn
                     980   985   990

Ile Ser Lys Leu Thr Lys Glu Lys Lys Ser Leu Gln Glu Ala His Gln
              995   1000   1005

Gln Thr Leu Asp Asp Leu Gln Val Glu Glu Asp Lys Val Asn Gly
    1010   1015   1020

Leu Ile Lys Ile Asn Ala Lys Leu Glu Gln Gln Thr Asp Asp Leu
    1025   1030   1035

Glu Gly Ser Leu Glu Gln Glu Lys Lys Leu Arg Ala Asp Leu Glu
    1040   1045   1050

Arg Ala Lys Arg Lys Leu Glu Gly Asp Leu Lys Met Ser Gln Glu
    1055   1060   1065

Ser Ile Met Asp Leu Glu Asn Glu Lys Gln Gln Ile Glu Glu Lys
    1070   1075   1080

Leu Lys Lys Lys Glu Phe Glu Leu Ser Gln Leu Gln Ala Arg Ile
    1085   1090   1095

Asp Asp Glu Gln Val His Ser Leu Gln Phe Gln Lys Lys Ile Lys
    1100   1105   1110

Glu Leu Gln Ala Arg Ile Glu Glu Leu Glu Glu Glu Ile Glu Ala
    1115   1120   1125

Glu His Thr Leu Arg Ala Lys Ile Glu Lys Gln Arg Ser Asp Leu
    1130   1135   1140

Ala Arg Glu Leu Glu Glu Ile Ser Glu Arg Leu Glu Glu Ala Ser
    1145   1150   1155

Gly Ala Thr Ser Ala Gln Ile Glu Met Asn Lys Lys Arg Glu Ala
    1160   1165   1170

```
Glu Phe  Gln Lys Met Arg Arg  Asp Leu Glu Glu Ala  Thr Leu Gln
    1175              1180              1185

His Glu  Ala Thr Ala Ala Thr  Leu Arg Lys Lys Gln  Ala Asp Ser
    1190              1195              1200

Val Ala  Glu Leu Gly Glu Gln  Ile Asp Asn Leu Gln  Arg Val Lys
    1205              1210              1215

Gln Lys  Leu Glu Lys Glu Lys  Ser Glu Leu Lys Met  Glu Ile Asp
    1220              1225              1230

Asp Met  Ala Ser Asn Ile Glu  Ala Leu Ser Lys Ser  Lys Ser Asn
    1235              1240              1245

Ile Glu  Arg Thr Cys Arg Thr  Val Glu Asp Gln Phe  Ser Glu Ile
    1250              1255              1260

Lys Ala  Lys Asp Glu Gln Gln  Thr Gln Leu Ile His  Asp Leu Asn
    1265              1270              1275

Met Gln  Lys Ala Arg Leu Gln  Thr Gln Asn Gly Glu  Leu Ser His
    1280              1285              1290

Arg Val  Glu Glu Lys Glu Ser  Leu Ile Ser Gln Leu  Thr Lys Ser
    1295              1300              1305

Lys Gln  Ala Leu Thr Gln Gln  Leu Glu Glu Leu Lys  Arg Gln Met
    1310              1315              1320

Glu Glu  Glu Thr Lys Ala Lys  Asn Ala Met Ala His  Ala Leu Gln
    1325              1330              1335

Ser Ser  Arg His Asp Cys Asp  Leu Leu Arg Glu Gln  Tyr Glu Glu
    1340              1345              1350

Glu Gln  Glu Ala Lys Ala Glu  Leu Gln Arg Ala Leu  Ser Lys Ala
    1355              1360              1365

Asn Ser  Glu Val Ala Gln Trp  Lys Thr Lys Tyr Glu  Thr Asp Ala
    1370              1375              1380

Ile Gln  Arg Thr Glu Glu Leu  Glu Glu Ala Lys Lys  Lys Leu Ala
    1385              1390              1395
```

```
Gln Arg  Leu Gln Glu Ala Glu  Glu Lys Thr Glu Thr  Ala Asn Ser
    1400                  1405              1410

Lys Cys  Ala Ser Leu Glu Lys  Thr Lys Gln Arg Leu  Gln Gly Glu
    1415                  1420              1425

Val Glu  Asp Leu Met Arg Asp  Leu Glu Arg Ser His  Thr Ala Cys
    1430                  1435              1440

Ala Thr  Leu Asp Lys Lys Gln  Arg Asn Phe Asp Lys  Val Leu Ala
    1445                  1450              1455

Glu Trp  Lys Gln Lys Leu Asp  Glu Ser Gln Ala Glu  Leu Glu Ala
    1460                  1465              1470

Ala Gln  Lys Glu Ser Arg Ser  Leu Ser Thr Glu Leu  Phe Lys Met
    1475                  1480              1485

Arg Asn  Ala Tyr Glu Glu Val  Val Asp Gln Leu Glu  Thr Leu Arg
    1490                  1495              1500

Arg Glu  Asn Lys Asn Leu Gln  Glu Glu Ile Ser Asp  Leu Thr Glu
    1505                  1510              1515

Gln Ile  Ala Glu Thr Gly Lys  Asn Leu Gln Glu Ala  Glu Lys Thr
    1520                  1525              1530

Lys Lys  Leu Val Glu Gln Glu  Lys Ser Asp Leu Gln  Val Ala Leu
    1535                  1540              1545

Glu Glu  Val Glu Gly Ser Leu  Glu His Glu Glu Ser  Lys Ile Leu
    1550                  1555              1560

Arg Val  Gln Leu Glu Leu Ser  Gln Val Lys Ser Glu  Leu Asp Arg
    1565                  1570              1575

Lys Val  Ile Glu Lys Asp Glu  Glu Ile Glu Gln Leu  Lys Arg Asn
    1580                  1585              1590

Ser Gln  Arg Ala Ala Glu Ala  Leu Gln Ser Val Leu  Asp Ala Glu
    1595                  1600              1605

Ile Arg  Ser Arg Asn Asp Ala  Leu Arg Leu Lys Lys  Lys Met Glu
    1610                  1615              1620
```

Gly Asp Leu Asn Glu Met Glu Ile Gln Leu Gly His Ser Asn Arg
    1625   1630   1635

Gln Met Ala Glu Thr Gln Arg His Leu Arg Thr Val Gln Gly Gln
    1640   1645   1650

Leu Lys Asp Ser Gln Leu His Leu Asp Asp Ala Leu Arg Ser Asn
    1655   1660   1665

Glu Asp Leu Lys Glu Gln Leu Ala Ile Val Glu Arg Arg Asn Gly
    1670   1675   1680

Leu Leu Leu Glu Glu Leu Glu Glu Met Lys Val Ala Leu Glu Gln
    1685   1690   1695

Thr Glu Arg Thr Arg Arg Leu Ser Glu Gln Glu Leu Leu Asp Ala
    1700   1705   1710

Ser Asp Arg Val Gln Leu Leu His Ser Gln Asn Thr Ser Leu Ile
    1715   1720   1725

Asn Thr Lys Lys Lys Leu Glu Ala Asp Ile Ala Gln Cys Gln Ala
    1730   1735   1740

Glu Val Glu Asn Ser Ile Gln Glu Ser Arg Asn Ala Glu Glu Lys
    1745   1750   1755

Ala Lys Lys Ala Ile Thr Asp Ala Ala Met Met Ala Glu Glu Leu
    1760   1765   1770

Lys Lys Glu Gln Asp Thr Ser Ala His Leu Glu Arg Met Lys Lys
    1775   1780   1785

Asn Leu Glu Gln Thr Val Lys Asp Leu Gln His Arg Leu Asp Glu
    1790   1795   1800

Ala Glu Gln Leu Ala Leu Lys Gly Gly Lys Lys Gln Ile Gln Lys
    1805   1810   1815

Leu Glu Asn Arg Val Arg Glu Leu Glu Asn Glu Leu Asp Val Glu
    1820   1825   1830

Gln Lys Arg Gly Ala Glu Ala Leu Lys Gly Ala His Lys Tyr Glu

```
        1835                  1840                    1845


   Arg Lys Val Lys Glu Met Thr Tyr Gln Ala Glu Glu Asp Arg Lys
        1850                  1855                    1860


   Asn Ile Leu Arg Leu Gln Asp Leu Val Asp Lys Leu Gln Ala Lys
        1865                  1870                    1875


   Val Lys Ser Tyr Lys Arg Gln Ala Glu Glu Ala Glu Glu Gln Ala
        1880                  1885                    1890


   Asn Thr Gln Leu Ser Arg Cys Arg Arg Val Gln His Glu Leu Glu
        1895                  1900                    1905


   Glu Ala Ala Glu Arg Ala Asp Ile Ala Glu Ser Gln Val Asn Lys
        1910                  1915                    1920


   Leu Arg Ala Lys Ser Arg Asp Val Gly Ser Gln Lys Met Glu Glu
        1925                  1930                    1935


   <210>  154
   <211>  173
   <212>  PRT
   <213>  Human

   <400>  154

   Met Ala Ser Arg Lys Thr Lys Lys Glu Gly Gly Ala Leu Arg Ala
   1                 5                   10                  15


   Gln Arg Ala Ser Ser Asn Val Phe Ser Asn Phe Glu Gln Thr Gln Ile
                  20                  25                  30


   Gln Glu Phe Lys Glu Ala Phe Thr Leu Met Asp Gln Asn Arg Asp Gly
                  35                  40                  45


   Phe Ile Asp Lys Glu Asp Leu Lys Asp Thr Tyr Ala Ser Leu Gly Lys
        50                  55                  60


   Thr Asn Val Lys Asp Asp Glu Leu Asp Ala Met Leu Lys Glu Ala Ser
   65                  70                  75                  80


   Gly Pro Ile Asn Phe Thr Met Phe Leu Asn Leu Phe Gly Glu Lys Leu
                  85                  90                  95


   Ser Gly Thr Asp Ala Glu Glu Thr Ile Leu Asn Ala Phe Lys Met Leu
```

                    100   105   110

      Asp Pro Asp Gly Lys Gly Lys Ile Asn Lys Glu Tyr Ile Lys Arg Leu
              115   120   125

      Leu Met Ser Gln Ala Asp Lys Met Thr Ala Glu Glu Val Asp Gln Met
          130   135   140

      Phe Gln Phe Ala Ser Ile Asp Val Ala Gly Asn Leu Asp Tyr Lys Ala
      145   150   155   160

      Leu Ser Tyr Val Ile Thr His Gly Glu Glu Lys Glu Glu
                      165   170

      <210> 155
      <211> 984
      <212> PRT
      <213> Human

      <400> 155

      Met Glu Thr Lys Gly Tyr His Ser Leu Pro Glu Gly Leu Asp Met Glu
      1   5   10   15

      Arg Arg Trp Gly Gln Val Ser Gln Ala Val Glu Arg Ser Ser Leu Gly
              20   25   30

      Pro Thr Glu Arg Thr Asp Glu Asn Asn Tyr Met Glu Ile Val Asn Val
              35   40   45

      Ser Cys Val Ser Gly Ala Ile Pro Asn Asn Ser Thr Gln Gly Ser Ser
          50   55   60

      Lys Glu Lys Gln Glu Leu Leu Pro Cys Leu Gln Gln Asp Asn Asn Arg
      65   70   75   80

      Pro Gly Ile Leu Thr Ser Asp Ile Lys Thr Glu Leu Glu Ser Lys Glu
                      85   90   95

      Leu Ser Ala Thr Val Ala Glu Ser Met Gly Leu Tyr Met Asp Ser Val
                  100   105   110

      Arg Asp Ala Asp Tyr Ser Tyr Glu Gln Gln Asn Gln Gln Gly Ser Met
              115   120   125

      Ser Pro Ala Lys Ile Tyr Gln Asn Val Glu Gln Leu Val Lys Phe Tyr

```
         130                    135                        140

    Lys Gly Asn Gly His Arg Pro Ser Thr Leu Ser Cys Val Asn Thr Pro
    145                 150                 155                 160

    Leu Arg Ser Phe Met Ser Asp Ser Gly Ser Ser Val Asn Gly Gly Val
                    165                 170                 175

    Met Arg Ala Ile Val Lys Ser Pro Ile Met Cys His Glu Lys Ser Pro
                    180                 185                 190

    Ser Val Cys Ser Pro Leu Asn Met Thr Ser Ser Val Cys Ser Pro Ala
                    195                 200                 205

    Gly Ile Asn Ser Val Ser Ser Thr Thr Ala Ser Phe Gly Ser Phe Pro
    210                 215                 220

    Val His Ser Pro Ile Thr Gln Gly Thr Pro Leu Thr Cys Ser Pro Asn
    225                 230                 235                 240

    Ala Glu Asn Arg Gly Ser Arg Ser His Ser Pro Ala His Ala Ser Asn
                    245                 250                 255

    Val Gly Ser Pro Leu Ser Ser Pro Leu Ser Ser Met Lys Ser Ser Ile
                    260                 265                 270

    Ser Ser Pro Pro Ser His Cys Ser Val Lys Ser Pro Val Ser Ser Pro
                275                 280                 285

    Asn Asn Val Thr Leu Arg Ser Ser Val Ser Ser Pro Ala Asn Ile Asn
        290                 295                 300

    Asn Ser Arg Cys Ser Val Ser Ser Pro Ser Asn Thr Asn Asn Arg Ser
    305                 310                 315                 320

    Thr Leu Ser Ser Pro Ala Ala Ser Thr Val Gly Ser Ile Cys Ser Pro
                    325                 330                 335

    Val Asn Asn Ala Phe Ser Tyr Thr Ala Ser Gly Thr Ser Ala Gly Ser
                    340                 345                 350

    Ser Thr Leu Arg Asp Val Val Pro Ser Pro Asp Thr Gln Glu Lys Gly
                355                 360                 365
```

Ala Gln Glu Val Pro Phe Pro Lys Thr Glu Glu Val Glu Ser Ala Ile
    370   375   380

Ser Asn Gly Val Thr Gly Gln Leu Asn Ile Val Gln Tyr Ile Lys Pro
385   390   395   400

Glu Pro Asp Gly Ala Phe Ser Ser Ser Cys Leu Gly Gly Asn Ser Lys
            405   410   415

Ile Asn Ser Asp Ser Ser Phe Ser Val Pro Ile Lys Gln Glu Ser Thr
            420   425   430

Lys His Ser Cys Ser Gly Thr Ser Phe Lys Gly Asn Pro Thr Val Asn
        435   440   445

Pro Phe Pro Phe Met Asp Gly Ser Tyr Phe Ser Phe Met Asp Asp Lys
    450   455   460

Asp Tyr Tyr Ser Leu Ser Gly Ile Leu Gly Pro Pro Val Pro Gly Phe
465   470   475   480

Asp Gly Asn Cys Glu Gly Ser Gly Phe Pro Val Gly Ile Lys Gln Glu
            485   490   495

Pro Asp Asp Gly Ser Tyr Tyr Pro Glu Ala Ser Ile Pro Ser Ser Ala
            500   505   510

Ile Val Gly Val Asn Ser Gly Gly Gln Ser Phe His Tyr Arg Ile Gly
        515   520   525

Ala Gln Gly Thr Ile Ser Leu Ser Arg Ser Ala Arg Asp Gln Ser Phe
    530   535   540

Gln His Leu Ser Ser Phe Pro Pro Val Asn Thr Leu Val Glu Ser Trp
545   550   555   560

Lys Ser His Gly Asp Leu Ser Ser Arg Arg Ser Asp Gly Tyr Pro Val
            565   570   575

Leu Glu Tyr Ile Pro Glu Asn Val Ser Ser Ser Thr Leu Arg Ser Val
            580   585   590

Ser Thr Gly Ser Ser Arg Pro Ser Lys Ile Cys Leu Val Cys Gly Asp
    595   600   605

```
Glu Ala Ser Gly Cys His Tyr Gly Val Val Thr Cys Gly Ser Cys Lys
    610                 615                 620

Val Phe Phe Lys Arg Ala Val Glu Gly Gln His Asn Tyr Leu Cys Ala
625                 630                 635                 640

Gly Arg Asn Asp Cys Ile Ile Asp Lys Ile Arg Arg Lys Asn Cys Pro
                645                 650                 655

Ala Cys Arg Leu Gln Lys Cys Leu Gln Ala Gly Met Asn Leu Gly Ala
            660                 665                 670

Arg Lys Ser Lys Lys Leu Gly Lys Leu Lys Gly Ile His Glu Glu Gln
        675                 680                 685

Pro Gln Gln Gln Gln Pro Pro Pro Pro Pro Pro Gln Ser Pro
    690                 695                 700

Glu Glu Gly Thr Thr Tyr Ile Ala Pro Ala Lys Glu Pro Ser Val Asn
705                 710                 715                 720

Thr Ala Leu Val Pro Gln Leu Ser Thr Ile Ser Arg Ala Leu Thr Pro
                725                 730                 735

Ser Pro Val Met Val Leu Glu Asn Ile Glu Pro Glu Ile Val Tyr Ala
            740                 745                 750

Gly Tyr Asp Ser Ser Lys Pro Asp Thr Ala Glu Asn Leu Leu Ser Thr
        755                 760                 765

Leu Asn Arg Leu Ala Gly Lys Gln Met Ile Gln Val Val Lys Trp Ala
770                 775                 780

Lys Val Leu Pro Gly Phe Lys Asn Leu Pro Leu Glu Asp Gln Ile Thr
785                 790                 795                 800

Leu Ile Gln Tyr Ser Trp Met Cys Leu Ser Ser Phe Ala Leu Ser Trp
                805                 810                 815

Arg Ser Tyr Lys His Thr Asn Ser Gln Phe Leu Tyr Phe Ala Pro Asp
        820                 825                 830

Leu Val Phe Asn Glu Glu Lys Met His Gln Ser Ala Met Tyr Glu Leu
    835                 840                 845
```

Cys Gln Gly Met His Gln Ile Ser Leu Gln Phe Val Arg Leu Gln Leu
    850   855   860

Thr Phe Glu Glu Tyr Thr Ile Met Lys Val Leu Leu Leu Leu Ser Thr
865   870   875   880

Ile Pro Lys Asp Gly Leu Lys Ser Gln Ala Ala Phe Glu Glu Met Arg
            885   890   895

Thr Asn Tyr Ile Lys Glu Leu Arg Lys Met Val Thr Lys Cys Pro Asn
            900   905   910

Asn Ser Gly Gln Ser Trp Gln Arg Phe Tyr Gln Leu Thr Lys Leu Leu
        915   920   925

Asp Ser Met His Asp Leu Val Ser Asp Leu Leu Glu Phe Cys Phe Tyr
    930   935   940

Thr Phe Arg Glu Ser His Ala Leu Lys Val Glu Phe Pro Ala Met Leu
945   950   955   960

Val Glu Ile Ile Ser Asp Gln Leu Pro Lys Val Glu Ser Gly Asn Ala
            965   970   975

Lys Pro Leu Tyr Phe His Arg Lys
            980

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<212>   PRT
<213>   Human

<400>   156

Met Ser Ser Asn Ser Asp Thr Gly Asp Leu Gln Glu Ser Leu Lys His
1   5   10   15

Gly Leu Thr Pro Ile Val Ser Gln Phe Lys Met Val Asn Tyr Ser Tyr
            20   25   30

Asp Glu Asp Leu Glu Glu Leu Cys Pro Val Cys Gly Asp Lys Val Ser
        35   40   45

Gly Tyr His Tyr Gly Leu Leu Thr Cys Glu Ser Cys Lys Gly Phe Phe
    50   55   60

Lys Arg Thr Val Gln Asn Asn Lys Arg Tyr Thr Cys Ile Glu Asn Gln
65   70   75   80

Asn Cys Gln Ile Asp Lys Thr Gln Arg Lys Arg Cys Pro Tyr Cys Arg
                85   90   95

Phe Gln Lys Cys Leu Ser Val Gly Met Lys Leu Glu Ala Val Arg Ala
        100   105   110

Asp Arg Met Arg Gly Gly Arg Asn Lys Phe Gly Pro Met Tyr Lys Arg
        115   120   125

Asp Arg Ala Leu Lys Gln Gln Lys Lys Ala Leu Ile Arg Ala Asn Gly
    130   135   140

Leu Lys Leu Glu Ala Met Ser Gln Val Ile Gln Ala Met Pro Ser Asp
145   150   155   160

Leu Thr Ile Ser Ser Ala Ile Gln Asn Ile His Ser Ala Ser Lys Gly
                165   170   175

Leu Pro Leu Asn His Ala Ala Leu Pro Pro Thr Asp Tyr Asp Arg Ser
            180   185   190

Pro Phe Val Thr Ser Pro Ile Ser Met Thr Met Pro Pro His Gly Ser
        195   200   205

Leu Gln Gly Tyr Gln Thr Tyr Gly His Phe Pro Ser Arg Ala Ile Lys
    210   215   220

Ser Glu Tyr Pro Asp Pro Tyr Thr Ser Ser Pro Glu Ser Ile Met Gly
225   230   235   240

Tyr Ser Tyr Met Asp Ser Tyr Gln Thr Ser Ser Pro Ala Ser Ile Pro
            245   250   255

His Leu Ile Leu Glu Leu Leu Lys Cys Glu Pro Asp Glu Pro Gln Val
            260   265   270

Gln Ala Lys Ile Met Ala Tyr Leu Gln Gln Glu Gln Ala Asn Arg Ser
    275   280   285

Lys His Glu Lys Leu Ser Thr Phe Gly Leu Met Cys Lys Met Ala Asp

                    290   295   300

        Gln Thr Leu Phe Ser Ile Val Glu Trp Ala Arg Ser Ser Ile Phe Phe
        305   310   315   320

        Arg Glu Leu Lys Val Asp Asp Gln Met Lys Leu Leu Gln Asn Cys Trp
                        325   330   335

        Ser Glu Leu Leu Ile Leu Asp His Ile Tyr Arg Gln Val Val His Gly
                    340   345   350

        Lys Glu Gly Ser Ile Phe Leu Val Thr Gly Gln Gln Val Asp Tyr Ser
                    355   360   365

        Ile Ile Ala Ser Gln Ala Gly Ala Thr Leu Asn Asn Leu Met Ser His
        370   375   380

        Ala Gln Glu Leu Val Ala Lys Leu Arg Ser Leu Gln Phe Asp Gln Arg
        385   390   395   400

        Glu Phe Val Cys Leu Lys Phe Leu Val Leu Phe Ser Leu Asp Val Lys
                        405   410   415

        Asn Leu Glu Asn Phe Gln Leu Val Glu Gly Val Gln Glu Gln Val Asn
                        420   425   430

        Ala Ala Leu Leu Asp Tyr Thr Met Cys Asn Tyr Pro Gln Gln Thr Glu
                        435   440   445

        Lys Phe Gly Gln Leu Leu Leu Arg Leu Pro Glu Ile Arg Ala Ile Ser
                450   455   460

        Met Gln Ala Glu Glu Tyr Leu Tyr Tyr Lys His Leu Asn Gly Asp Val
        465   470   475   480

        Pro Tyr Asn Asn Leu Leu Ile Glu Met Leu His Ala Lys Arg Ala
                        485   490   495

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Met Thr Ser Glu Glu Met Thr Ala Ser Val Leu Ile Pro Val Thr Gln

1   5   10   15

Arg Lys Val Val Ser Ala Gln Ser Ala Ala Asp Glu Ser Ser Glu Lys
            20   25   30

Val Ser Asp Ile Asn Ile Ser Lys Ala His Thr Val Arg Arg Ser Gly
            35   40   45

Glu Thr Ser His Thr Ile Ser Gln Leu Asn Lys Leu Lys Glu Glu Pro
        50   55   60

Ser Gly Ser Asn Leu Pro Lys Ile Leu Ser Ile Ala Arg Glu Lys Ile
65   70   75   80

Val Ser Asp Glu Asn Ser Asn Glu Lys Cys Trp Glu Lys Ile Met Pro
                85   90   95

Asp Ser Ala Lys Asn Leu Asn Ile Asn Cys Asn Asn Ile Leu Arg Asn
            100   105   110   .

His Gln His Gly Leu Pro Gln Arg Gln Phe Tyr Glu Met Tyr Asn Ser
        115   120   125

Val Ala Glu Glu Asp Leu Cys Leu Glu Thr Gly Ile Pro Ser Pro Leu
    130   135   140

Glu Arg Lys Val Phe Pro Gly Ile Gln Leu Glu Leu Asp Arg Pro Ser
145   150   155   160

Met Gly Ile Ser Pro Leu Gly Asn Gln Ser Val Ile Ile Glu Thr Gly
            165   170   175

Arg Ala His Pro Asp Ser Arg Arg Ala Val Phe His Phe His Tyr Glu
        180   185   190

Val Asp Arg Arg Met Ser Asp Thr Phe Cys Thr Leu Ser Glu Asn Leu
    195   200   205

Ile Leu Asp Asp Cys Gly Asn Cys Val Pro Leu Pro Gly Gly Glu Glu
    210   215   220

Lys Gln Lys Lys Asn Tyr Val Ala Tyr Thr Cys Lys Leu Met Glu Leu
225   230   235   240

```
Ala Lys Asn Cys Asp Asn Lys Asn Glu Gln Leu Gln Cys Asp His Cys
                245             250             255

Asp Thr Leu Asn Asp Lys Tyr Phe Cys Phe Glu Gly Ser Cys Glu Lys
            260             265             270

Val Asp Met Val Tyr Ser Gly Asp Ser Phe Cys Arg Lys Asp Phe Thr
        275             280             285

Asp Ser Gln Ala Ala Lys Thr Phe Leu Ser His Phe Glu Asp Phe Pro
    290             295             300

Asp Asn Cys Asp Asp Val Glu Glu Asp Ala Phe Lys Ser Lys Lys Glu
305             310             315             320

Arg Ser Thr Leu Leu Val Arg Arg Phe Cys Lys Asn Asp Arg Glu Val
            325             330             335

Lys Lys Ser Val Tyr Thr Gly Thr Arg Ala Ile Val Arg Thr Leu Pro
            340             345             350

Ser Gly His Ile Gly Leu Thr Ala Trp Ser Tyr Ile Asp Gln Lys Arg
        355             360             365

Asn Gly Pro Leu Leu Pro Cys Gly Arg Val Met Glu Pro Pro Ser Thr
    370             375             380

Val Glu Ile Arg Gln Asp Gly Ser Gln Arg Leu Ser Glu Ala Gln Trp
385             390             395             400

Tyr Pro Ile Tyr Asn Ala Val Arg Arg Glu Glu Thr Glu Asn Thr Val
            405             410             415

Gly Ser Leu Leu His Phe Leu Thr Lys Leu Pro Ala Ser Glu Thr Ala
        420             425             430

His Gly Arg Ile Ser Val Gly Pro Cys Leu Lys Gln Cys Val Arg Asp
        435             440             445

Thr Val Cys Glu Tyr Arg Ala Thr Leu Gln Arg Thr Ser Ile Ser Gln
    450             455             460

Tyr Ile Thr Gly Ser Leu Leu Glu Ala Thr Thr Ser Leu Gly Ala Arg
465             470             475             480
```

Ser Gly Leu Leu Ser Thr Phe Gly Gly Ser Thr Gly Arg Met Met Leu
                  485   490   495

Lys Glu Arg Gln Pro Gly Pro Ser Val Ala Asn Ser Asn Ala Leu Pro
              500   505   510

Ser Ser Ser Ala Gly Ile Ser Lys Glu Leu Ile Asp Leu Gln Pro Leu
          515   520   525

Ile Gln Phe Pro Glu Glu Val Ala Ser Ile Leu Met Glu Gln Glu Gln
      530   535   540

Thr Ile Tyr Arg Arg Val Leu Pro Val Asp Tyr Leu Cys Phe Leu Thr
545   550   555   560

Arg Asp Leu Gly Thr Pro Glu Cys Gln Ser Ser Leu Pro Cys Leu Lys
              565   570   575

Ala Ser Ile Ser Ala Ser Ile Leu Thr Thr Gln Asn Gly Glu His Asn
          580   585   590

Ala Leu Glu Asp Leu Val Met Arg Phe Asn Glu Val Ser Ser Trp Val
          595   600   605

Thr Trp Leu Ile Leu Thr Ala Gly Ser Met Glu Glu Lys Arg Glu Val
    610   615   620

Phe Ser Tyr Leu Val His Val Ala Lys Cys Cys Trp Asn Met Gly Asn
625   630   635   640

Tyr Asn Ala Val Met Glu Phe Leu Ala Gly Leu Arg Ser Arg Lys Val
              645   650   655

Leu Lys Met Trp Gln Phe Met Asp Gln Ser Asp Ile Glu Thr Met Arg
              660   665   670

Ser Leu Lys Asp Ala Met Ala Gln His Glu Ser Ser Cys Glu Tyr Arg
          675   680   685

Lys Val Val Thr Arg Ala Leu His Ile Pro Gly Cys Lys Val Val Pro
690   695   700

Phe Cys Gly Val Phe Leu Lys Glu Leu Cys Glu Val Leu Asp Gly Ala
705   710   715   720

```
Ser Gly Leu Met Lys Leu Cys Pro Arg Tyr Asn Ser Gln Glu Glu Thr
                725             730             735

Leu Glu Phe Val Ala Asp Tyr Ser Gly Gln Asp Asn Phe Leu Gln Arg
                740             745             750

Val Gly Gln Asn Gly Leu Lys Asn Ser Glu Lys Glu Ser Thr Val Asn
        755             760             765

Ser Ile Phe Gln Val Ile Arg Ser Cys Asn Arg Ser Leu Glu Thr Asp
    770             775             780

Glu Glu Asp Ser Pro Ser Glu Gly Asn Ser Ser Arg Lys Ser Ser Leu
785             790             795             800

Lys Asp Lys Ser Arg Trp Gln Phe Ile Ile Gly Asp Leu Leu Asp Ser
                805             810             815

Asp Asn Asp Ile Phe Glu Gln Ser Lys Glu Tyr Asp Ser His Gly Ser
                820             825             830

Glu Asp Ser Gln Lys Ala Phe Asp His Gly Thr Glu Leu Ile Pro Trp
        835             840             845

Tyr Val Leu Ser Ile Gln Ala Asp Val His Gln Phe Leu Leu Gln Gly
    850             855             860

Ala Thr Val Ile His Tyr Asp Gln Asp Thr His Leu Ser Ala Arg Cys
865             870             875             880

Phe Leu Gln Leu Gln Pro Asp Asn Ser Thr Leu Thr Trp Val Lys Pro
                885             890             895

Thr Thr Ala Ser Pro Ala Ser Ser Lys Ala Lys Leu Gly Val Leu Asn
                900             905             910

Asn Thr Ala Glu Pro Gly Lys Phe Pro Leu Leu Gly Asn Ala Gly Leu
        915             920             925

Ser Ser Leu Thr Glu Gly Val Leu Asp Leu Phe Ala Val Lys Ala Val
    930             935             940

Tyr Met Gly His Pro Gly Ile Asp Ile His Thr Val Cys Val Gln Asn
```

```
          945                     950                          955
                                                                              960

   Lys Leu Gly Ser Met Phe Leu Ser Glu Thr Gly Val Thr Leu Leu Tyr
                        965                     970                     975

   Gly Leu Gln Thr Thr Asp Asn Arg Leu Leu His Phe Val Ala Pro Lys
                    980                     985                     990

   His Thr Ala Lys Met Leu Phe Ser Gly Leu Leu Glu Leu  Thr Arg Ala
                995                     1000                  1005

   Val Arg Lys Met Arg Lys Phe Pro Asp Gln Arg Gln Gln Trp Leu
       1010                  1015                  1020

   Arg Lys Gln Tyr Val Ser Leu Tyr Gln Glu Asp Gly Arg Tyr Glu
       1025                  1030                  1035

   Gly Pro Thr Leu Ala His Ala Val Glu Leu Phe Gly Gly Arg Arg
       1040                  1045                  1050

   Trp Ser Ala Arg Asn Pro Ser Pro Gly Thr Ser Ala Lys Asn Ala
       1055                  1060                  1065

   Glu Lys Pro Asn Met Gln Arg Asn Asn Thr Leu Gly Ile Ser Thr
       1070                  1075                  1080

   Thr Lys Lys Lys Lys Ile Leu Met Arg Gly Glu Ser Gly Glu
       1085                  1090                  1095

   Val Thr Asp Asp Glu Met Ala Thr Arg Lys Ala Lys Met His Lys
       1100                  1105                  1110

   Glu Cys Arg Ser Arg Ser Gly Ser Asp Pro Gln Asp Ile Asn Glu
       1115                  1120                  1125

   Gln Glu Glu Ser Glu Val Asn Ala Ile Ala Asn Pro Pro Asn Pro
       1130                  1135                  1140

   Leu Pro Ser Arg Arg Ala His Ser Leu Thr Thr Ala Gly Ser Pro
       1145                  1150                  1155

   Asn Leu Ala Ala Gly Thr Ser Ser Pro Ile Arg Pro Val Ser Ser
       1160                  1165                  1170
```

```
Pro Val Leu Ser Ser Ser Asn Lys Ser Pro Ser Ser Ala Trp Ser
    1175                1180            1185

Ser Ser Ser Trp His Gly Arg Ile Lys Gly Gly Met Lys Gly Phe
    1190                1195            1200

Gln Ser Phe Met Val Ser Asp Ser Asn Met Ser Phe Val Glu Phe
    1205                1210            1215

Val Glu Leu Phe Lys Ser Phe Ser Val Arg Ser Arg Lys Asp Leu
    1220                1225            1230

Lys Asp Leu Phe Asp Val Tyr Ala Val Pro Cys Asn Arg Ser Gly
    1235                1240            1245

Ser Glu Ser Ala Pro Leu Tyr Thr Asn Leu Thr Ile Asp Glu Asn
    1250                1255            1260

Thr Ser Asp Leu Gln Pro Asp Leu Asp Leu Leu Thr Arg Asn Val
    1265                1270            1275

Ser Asp Leu Gly Leu Phe Ile Lys Ser Lys Gln Gln Leu Ser Asp
    1280                1285            1290

Asn Gln Arg Gln Ile Ser Asp Ala Ile Ala Ala Ser Ile Val
    1295                1300            1305

Thr Asn Gly Thr Gly Ile Glu Ser Thr Ser Leu Gly Ile Phe Gly
    1310                1315            1320

Val Gly Ile Leu Gln Leu Asn Asp Phe Leu Val Asn Cys Gln Gly
    1325                1330            1335

Glu His Cys Thr Tyr Asp Glu Ile Leu Ser Ile Ile Gln Lys Phe
    1340                1345            1350

Glu Pro Ser Ile Ser Met Cys His Gln Gly Leu Met Ser Phe Glu
    1355                1360            1365

Gly Phe Ala Arg Phe Leu Met Asp Lys Glu Asn Phe Ala Ser Lys
    1370                1375            1380

Asn Asp Glu Ser Gln Glu Asn Ile Lys Glu Leu Gln Leu Pro Leu
    1385                1390            1395
```

```
Ser Tyr  Tyr Tyr Ile Glu Ser  Ser His Asn Thr Tyr  Leu Thr Gly
    1400             1405              1410
```

```
His Gln  Leu Lys Gly Glu Ser  Ser Val Glu Leu Tyr  Ser Gln Val
    1415             1420              1425
```

```
Leu Leu  Gln Gly Cys Arg Ser  Val Glu Leu Asp Cys  Trp Asp Gly
    1430             1435              1440
```

```
Asp Asp  Gly Met Pro Ile Ile  Tyr His Gly His Thr  Pro Thr Thr
    1445             1450              1455
```

```
Lys Ile  Pro Phe Lys Glu Val  Val Glu Ala Ile Asp  Arg Ser Ala
    1460             1465              1470
```

```
Phe Ile  Asn Ser Asp Leu Pro  Ile Ile Ile Ser Ile  Glu Asn His
    1475             1480              1485
```

```
Cys Ser  Leu Pro Gln Gln Arg  Lys Met Ala Glu Ile  Phe Lys Thr
    1490             1495              1500
```

```
Val Phe  Gly Glu Lys Leu Val  Thr Lys Phe Leu Phe  Glu Thr Asp
    1505             1510              1515
```

```
Phe Ser  Asp Asp Pro Met Leu  Pro Ser Pro Asp Gln  Leu Arg Lys
    1520             1525              1530
```

```
Lys Val  Leu Leu Lys Asn Lys  Lys Leu Lys Ala His  Gln Thr Pro
    1535             1540              1545
```

```
Val Asp  Ile Leu Lys Gln Lys  Ala His Gln Leu Ala  Ser Met Gln
    1550             1555              1560
```

```
Val Gln  Ala Tyr Asn Gly Gly  Asn Ala Asn Pro Arg  Pro Ala Asn
    1565             1570              1575
```

```
Asn Glu  Glu Glu Glu Asp Glu  Glu Asp Glu Tyr Asp  Tyr Asp Tyr
    1580             1585              1590
```

```
Glu Ser  Leu Ser Asp Asp Asn  Ile Leu Glu Asp Arg  Pro Glu Asn
    1595             1600              1605
```

```
Lys Ser  Cys Asn Asp Lys Leu  Gln Phe Glu Tyr Asn  Glu Glu Ile
    1610             1615              1620
```

```
Pro Lys Arg Ile Lys Lys Ala Asp Asn Ser Ala Cys Asn Lys Gly
    1625                1630            1635

Lys Val Tyr Asp Met Glu Leu Gly Glu Glu Phe Tyr Leu Asp Gln
    1640                1645            1650

Asn Lys Lys Glu Ser Arg Gln Ile Ala Pro Glu Leu Ser Asp Leu
    1655                1660            1665

Val Ile Tyr Arg Gln Ala Val Lys Phe Pro Gly Leu Ser Thr Leu
    1670                1675            1680

Asn Ala Ser Gly Ser Ser Arg Gly Lys Glu Arg Lys Ser Arg Lys
    1685                1690            1695

Ser Ile Phe Gly Asn Asn Pro Gly Arg Met Ser Pro Gly Glu Thr
    1700                1705            1710

Ala Ser Phe Asn Lys Thr Ser Gly Lys Ser Ser Cys Glu Gly Ile
    1715                1720            1725

Arg Gln Thr Trp Glu Glu Ser Ser Ser Pro Leu Asn Pro Thr Thr
    1730                1735            1740

Ser Leu Ser Ala Ile Ile Arg Thr Pro Lys Cys Tyr His Ile Ser
    1745                1750            1755

Ser Leu Asn Glu Asn Ala Ala Lys Arg Leu Cys Arg Arg Tyr Ser
    1760                1765            1770

Gln Lys Leu Ile Gln His Thr Ala Cys Gln Leu Leu Arg Thr Tyr
    1775                1780            1785

Pro Ala Ala Thr Arg Ile Asp Ser Ser Asn Pro Asn Pro Leu Met
    1790                1795            1800

Phe Trp Leu His Gly Ile Gln Leu Val Ala Leu Asn Tyr Gln Thr
    1805                1810            1815

Asp Asp Leu Pro Leu His Leu Asn Ala Ala Met Phe Glu Ala Asn
    1820                1825            1830

Gly Gly Cys Gly Tyr Val Leu Lys Pro Pro Val Leu Trp Asp Lys
```

```
            1835                    1840                        1845

    Asn Cys  Pro Met Tyr Gln Lys  Phe Ser Pro Leu Glu  Arg Asp Leu
        1850                1855                1860

    Asp Ser  Met Asp Pro Ala Val  Tyr Ser Leu Thr Ile  Val Ser Gly
        1865                1870                1875

    Gln Asn  Val Cys Pro Ser Asn  Ser Met Gly Ser Pro  Cys Ile Glu
        1880                1885                1890

    Val Asp  Val Leu Gly Met Pro  Leu Asp Ser Cys His  Phe Arg Thr
        1895                1900                1905

    Lys Pro  Ile His Arg Asn Thr  Leu Asn Pro Met Trp  Asn Glu Gln
        1910                1915                1920

    Phe Leu  Phe Arg Val His Phe  Glu Asp Leu Val Phe  Leu Arg Phe
        1925                1930                1935

    Ala Val  Val Glu Asn Asn Ser  Ser Ala Val Thr Ala  Gln Arg Ile
        1940                1945                1950

    Ile Pro  Leu Lys Ala Leu Lys  Arg Gly Tyr Arg His  Leu Gln Leu
        1955                1960                1965

    Arg Asn  Leu His Asn Glu Val  Leu Glu Ile Ser Ser  Leu Phe Ile
        1970                1975                1980

    Asn Ser  Arg Arg Met Glu Glu  Asn Ser Ser Gly Asn  Thr Met Ser
        1985                1990                1995

    Ala Ser  Ser Met Phe Asn Thr  Glu Glu Arg Lys Cys  Leu Gln Thr
        2000                2005                2010

    His Arg  Val Thr Val His Gly  Val Pro Gly Pro Glu  Pro Phe Thr
        2015                2020                2025

    Val Phe  Thr Ile Asn Gly Gly  Thr Lys Ala Lys Gln  Leu Leu Gln
        2030                2035                2040

    Gln Ile  Leu Thr Asn Glu Gln  Asp Ile Lys Pro Val  Thr Thr Asp
        2045                2050                2055
```

```
Tyr Phe  Leu Met Glu Glu Lys  Tyr Phe Ile Ser Lys  Glu Lys Asn
    2060                 2065              2070
```

```
Glu Cys  Arg Lys Gln Pro Phe  Gln Arg Ala Ile Gly  Pro Glu Glu
    2075                 2080              2085
```

```
Glu Ile  Met Gln Ile Leu Ser  Ser Trp Phe Pro Glu  Glu Gly Tyr
    2090                 2095              2100
```

```
Met Gly  Arg Ile Val Leu Lys  Thr Gln Gln Glu Asn  Leu Glu Glu
    2105                 2110              2115
```

```
Lys Asn  Ile Val Gln Asp Asp  Lys Glu Val Ile Leu  Ser Ser Glu
    2120                 2125              2130
```

```
Glu Glu  Ser Phe Phe Val Gln  Val His Asp Val Ser  Pro Glu Gln
    2135                 2140              2145
```

```
Pro Arg  Thr Val Ile Lys Ala  Pro Arg Val Ser Thr  Ala Gln Asp
    2150                 2155              2160
```

```
Val Ile  Gln Gln Thr Leu Cys  Lys Ala Lys Tyr Ser  Tyr Ser Ile
    2165                 2170              2175
```

```
Leu Ser  Asn Pro Asn Pro Ser  Asp Tyr Val Leu Leu  Glu Glu Val
    2180                 2185              2190
```

```
Val Lys  Asp Thr Thr Asn Lys  Lys Thr Thr Thr Pro  Lys Ser Ser
    2195                 2200              2205
```

```
Gln Arg  Val Leu Leu Asp Gln  Glu Cys Val Phe Gln  Ala Gln Ser
    2210                 2215              2220
```

```
Lys Trp  Lys Gly Ala Gly Lys  Phe Ile Leu Lys Leu  Lys Glu Gln
    2225                 2230              2235
```

```
Val Gln  Ala Ser Arg Glu Asp  Lys Lys Lys Gly Ile  Ser Phe Ala
    2240                 2245              2250
```

```
Ser Glu  Leu Lys Lys Leu Thr  Lys Ser Thr Lys Gln  Pro Arg Gly
    2255                 2260              2265
```

```
Leu Thr  Ser Pro Ser Gln Leu  Leu Thr Ser Glu Ser  Ile Gln Thr
    2270                 2275              2280
```

```
Lys Glu  Glu Lys Pro Val Gly  Gly Leu Ser Pro Val  Thr Gln Trp
    2285             2290             2295


Ile Thr  Asp Ser Asp
    2300


<210>  158
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<212>  PRT
<213>  Human

<400>  158

Met Ala Ser Trp Ala Lys Gly Arg Ser Tyr Leu Ala Pro Gly Leu Leu
1               5               10              15


Gln Gly Gln Val Ala Ile Val Thr Gly Gly Ala Thr Gly Ile Gly Lys
            20              25              30


Ala Ile Val Lys Glu Leu Leu Glu Leu Gly Ser Asn Val Val Ile Ala
            35              40              45


Ser Arg Lys Leu Glu Arg Leu Lys Ser Ala Ala Asp Glu Leu Gln Ala
    50              55              60


Asn Leu Pro Pro Thr Lys Gln Ala Arg Val Ile Pro Ile Gln Cys Asn
65              70              75              80


Ile Arg Asn Glu Glu Glu Val Asn Asn Leu Val Lys Ser Thr Leu Asp
            85              90              95


Thr Phe Gly Lys Ile Asn Phe Leu Val Asn Asn Gly Gly Gly Gln Phe
            100             105             110


Leu Ser Pro Ala Glu His Ile Ser Ser Lys Gly Trp His Ala Val Leu
            115             120             125


Glu Thr Asn Leu Thr Gly Thr Phe Tyr Met Cys Lys Ala Val Tyr Ser
    130             135             140


Ser Trp Met Lys Glu His Gly Gly Ser Ile Val Asn Ile Ile Val Pro
145             150             155             160


Thr Lys Ala Gly Phe Pro Leu Ala Val His Ser Gly Ala Ala Arg Ala
                165             170             175
```

```
Gly Val Tyr Asn Leu Thr Lys Ser Leu Ala Leu Glu Trp Ala Cys Ser
            180             185             190

Gly Ile Arg Ile Asn Cys Val Ala Pro Gly Val Ile Tyr Ser Gln Thr
            195             200             205

Ala Val Glu Asn Tyr Gly Ser Trp Gly Gln Ser Phe Phe Glu Gly Ser
            210             215             220

Phe Gln Lys Ile Pro Ala Lys Arg Ile Gly Val Pro Glu Glu Val Ser
225             230             235             240

Ser Val Val Cys Phe Leu Leu Ser Pro Ala Ala Ser Phe Ile Thr Gly
                245             250             255

Gln Ser Val Asp Val Asp Gly Gly Arg Ser Leu Tyr Thr His Ser Tyr
            260             265             270

Glu Val Pro Asp His Asp Asn Trp Pro Lys Gly Ala Gly Asp Leu Ser
            275             280             285

Val Val Lys Lys Met Lys Glu Thr Phe Lys Glu Lys Ala Lys Leu
        290             295             300
```

```
<210>   159
<211>   246
<212>   PRT
<213>   Human

<400>   159
```

```
Met Glu Glu Ala Lys Ser Gln Ser Leu Glu Glu Asp Phe Glu Gly Gln
1               5               10              15

Ala Thr His Thr Gly Pro Lys Gly Val Ile Asn Asp Trp Arg Lys Phe
            20              25              30

Lys Leu Glu Ser Gln Asp Ser Asp Ser Ile Pro Pro Ser Lys Lys Glu
            35              40              45

Ile Leu Arg Gln Met Ser Ser Pro Gln Ser Arg Asn Gly Lys Asp Ser
        50              55              60

Lys Glu Arg Val Ser Arg Lys Met Ser Ile Gln Glu Tyr Glu Leu Ile
65              70              75              80
```

```
His Lys Glu Lys Glu Asp Glu Asn Cys Leu Arg Lys Tyr Arg Arg Gln
              85                    90              95

Cys Met Gln Asp Met His Gln Lys Leu Ser Phe Gly Pro Arg Tyr Gly
             100             105             110

Phe Val Tyr Glu Leu Glu Thr Gly Lys Gln Phe Leu Glu Thr Ile Glu
         115             120             125

Lys Glu Leu Lys Ile Thr Thr Ile Val Val His Ile Tyr Glu Asp Gly
     130             135             140

Ile Lys Gly Cys Asp Ala Leu Asn Ser Ser Leu Thr Cys Leu Ala Ala
145             150             155             160

Glu Tyr Pro Ile Val Lys Phe Cys Lys Ile Lys Ala Ser Asn Thr Gly
             165             170             175

Ala Gly Asp Arg Phe Ser Leu Asp Val Leu Pro Thr Leu Leu Ile Tyr
             180             185             190

Lys Gly Gly Glu Leu Ile Ser Asn Phe Ile Ser Val Ala Glu Gln Phe
             195             200             205

Ala Glu Glu Phe Phe Ala Gly Asp Val Glu Ser Phe Leu Asn Glu Tyr
     210             215             220

Gly Leu Leu Pro Glu Arg Glu Val His Val Leu Glu His Thr Lys Ile
225             230             235             240

Glu Glu Glu Asp Val Glu
             245
```

```
<210>  160
<211>  403
<212>  PRT
<213>  Human

<400>  160
```

```
Met Thr Ala Ile Ile Lys Glu Ile Val Ser Arg Asn Lys Arg Arg Tyr
1               5               10              15

Gln Glu Asp Gly Phe Asp Leu Asp Leu Thr Tyr Ile Tyr Pro Asn Ile
             20              25              30
```

Ile Ala Met Gly Phe Pro Ala Glu Arg Leu Glu Gly Val Tyr Arg Asn
        35   40   45

Asn Ile Asp Asp Val Val Arg Phe Leu Asp Ser Lys His Lys Asn His
        50   55   60

Tyr Lys Ile Tyr Asn Leu Cys Ala Glu Arg His Tyr Asp Thr Ala Lys
65   70   75   80

Phe Asn Cys Arg Val Ala Gln Tyr Pro Phe Glu Asp His Asn Pro Pro
                85   90   95

Gln Leu Glu Leu Ile Lys Pro Phe Cys Glu Asp Leu Asp Gln Trp Leu
            100   105   110

Ser Glu Asp Asp Asn His Val Ala Ala Ile His Cys Lys Ala Gly Lys
        115   120   125

Gly Arg Thr Gly Val Met Ile Cys Ala Tyr Leu Leu His Arg Gly Lys
    130   135   140

Phe Leu Lys Ala Gln Glu Ala Leu Asp Phe Tyr Gly Glu Val Arg Thr
145   150   155   160

Arg Asp Lys Lys Gly Val Thr Ile Pro Ser Gln Arg Arg Tyr Val Tyr
                165   170   175

Tyr Tyr Ser Tyr Leu Leu Lys Asn His Leu Asp Tyr Arg Pro Val Ala
            180   185   190

Leu Leu Phe His Lys Met Met Phe Glu Thr Ile Pro Met Phe Ser Gly
        195   200   205

Gly Thr Cys Asn Pro Gln Phe Val Val Cys Gln Leu Lys Val Lys Ile
    210   215   220

Tyr Ser Ser Asn Ser Gly Pro Thr Arg Arg Glu Asp Lys Phe Met Tyr
225   230   235   240

Phe Glu Phe Pro Gln Pro Leu Pro Val Cys Gly Asp Ile Lys Val Glu
                245   250   255

Phe Phe His Lys Gln Asn Lys Met Leu Lys Lys Asp Lys Met Phe His
                260   265   270

```
Phe Trp Val Asn Thr Phe Phe Ile Pro Gly Pro Glu Glu Thr Ser Glu
        275             280             285

Lys Val Glu Asn Gly Ser Leu Cys Asp Gln Glu Ile Asp Ser Ile Cys
        290             295             300

Ser Ile Glu Arg Ala Asp Asn Asp Lys Glu Tyr Leu Val Leu Thr Leu
305             310             315             320

Thr Lys Asn Asp Leu Asp Lys Ala Asn Lys Asp Lys Ala Asn Arg Tyr
                325             330             335

Phe Ser Pro Asn Phe Lys Val Lys Leu Tyr Phe Thr Lys Thr Val Glu
        340             345             350

Glu Pro Ser Asn Pro Glu Ala Ser Ser Ser Thr Ser Val Thr Pro Asp
        355             360             365

Val Ser Asp Asn Glu Pro Asp His Tyr Arg Tyr Ser Asp Thr Thr Asp
    370             375             380

Ser Asp Pro Glu Asn Glu Pro Phe Asp Glu Asp Gln His Thr Gln Ile
385             390             395             400

Thr Lys Val
```

```
<210> 161
<211> 336
<212> PRT
<213> Human

<400> 161
```

```
Met Leu Gln Ser Leu Ala Gly Ser Ser Cys Val Arg Leu Val Glu Arg
1               5               10              15

His Arg Ser Ala Trp Cys Phe Gly Phe Leu Val Leu Gly Tyr Leu Leu
        20              25              30

Tyr Leu Val Phe Gly Ala Val Val Phe Ser Ser Val Glu Leu Pro Tyr
        35              40              45

Glu Asp Leu Leu Arg Gln Glu Leu Arg Lys Leu Lys Arg Arg Phe Leu
    50              55              60
```

Glu Glu His Glu Cys Leu Ser Glu Gln Gln Leu Glu Gln Phe Leu Gly
65   70   75   80

Arg Val Leu Glu Ala Ser Asn Tyr Gly Val Ser Val Leu Ser Asn Ala
                85   90   95

Ser Gly Asn Trp Asn Trp Asp Phe Thr Ser Ala Leu Phe Phe Ala Ser
                100   105   110

Thr Val Leu Ser Thr Thr Gly Tyr Gly His Thr Val Pro Leu Ser Asp
            115   120   125

Gly Gly Lys Ala Phe Cys Ile Ile Tyr Ser Val Ile Gly Ile Pro Phe
        130   135   140

Thr Leu Leu Phe Leu Thr Ala Val Val Gln Arg Ile Thr Val His Val
145   150   155   160

Thr Arg Arg Pro Val Leu Tyr Phe His Ile Arg Trp Gly Phe Ser Lys
                165   170   175

Gln Val Val Ala Ile Val His Ala Val Leu Leu Gly Phe Val Thr Val
                180   185   190

Ser Cys Phe Phe Phe Ile Pro Ala Ala Val Phe Ser Val Leu Glu Asp
        195   200   205

Asp Trp Asn Phe Leu Glu Ser Phe Tyr Phe Cys Phe Ile Ser Leu Ser
    210   215   220

Thr Ile Gly Leu Gly Asp Tyr Val Pro Gly Glu Gly Tyr Asn Gln Lys
225   230   235   240

Phe Arg Glu Leu Tyr Lys Ile Gly Ile Thr Cys Tyr Leu Leu Leu Gly
                245   250   255

Leu Ile Ala Met Leu Val Val Leu Glu Thr Phe Cys Glu Leu His Glu
            260   265   270

Leu Lys Lys Phe Arg Lys Met Phe Tyr Val Lys Lys Asp Lys Asp Glu
        275   280   285

Asp Gln Val His Ile Ile Glu His Asp Gln Leu Ser Phe Ser Ser Ile

```
        290                        295                      300
```

```
Thr Asp Gln Ala Ala Gly Met Lys Glu Asp Gln Lys Gln Asn Glu Pro
305                 310                 315                 320
```

```
Phe Val Ala Thr Gln Ser Ser Ala Cys Val Asp Gly Pro Ala Asn His
                325                 330                 335
```

```
<210>  162
<211>  604
<212>  PRT
<213>  Human
```

```
<400>  162
```

```
Met Leu Ala Arg Ala Leu Leu Leu Cys Ala Val Leu Ala Leu Ser His
1                5                10                  15
```

```
Thr Ala Asn Pro Cys Cys Ser His Pro Cys Gln Asn Arg Gly Val Cys
                20                25                  30
```

```
Met Ser Val Gly Phe Asp Gln Tyr Lys Cys Asp Cys Thr Arg Thr Gly
            35                  40                  45
```

```
Phe Tyr Gly Glu Asn Cys Ser Thr Pro Glu Phe Leu Thr Arg Ile Lys
    50                  55                  60
```

```
Leu Phe Leu Lys Pro Thr Pro Asn Thr Val His Tyr Ile Leu Thr His
65                  70                  75                  80
```

```
Phe Lys Gly Phe Trp Asn Val Val Asn Asn Ile Pro Phe Leu Arg Asn
                85                  ,90                 95
```

```
Ala Ile Met Ser Tyr Val Leu Thr Ser Arg Ser His Leu Ile Asp Ser
            100                 105                 110
```

```
Pro Pro Thr Tyr Asn Ala Asp Tyr Gly Tyr Lys Ser Trp Glu Ala Phe
    115                 120                 125
```

```
Ser Asn Leu Ser Tyr Tyr Thr Arg Ala Leu Pro Pro Val Pro Asp Asp
130                 135                 140
```

```
Cys Pro Thr Pro Leu Gly Val Lys Gly Lys Lys Gln Leu Pro Asp Ser
145                 150                 155                 160
```

```
Asn Glu Ile Val Glu Lys Leu Leu Leu Arg Arg Lys Phe Ile Pro Asp
```

```
                165                    170                      175

Pro Gln Gly Ser Asn Met Met Phe Ala Phe Phe Ala Gln His Phe Thr
            180                 185                 190

His Gln Phe Phe Lys Thr Asp His Lys Arg Gly Pro Ala Phe Thr Asn
        195                 200                 205

Gly Leu Gly His Gly Val Asp Leu Asn His Ile Tyr Gly Glu Thr Leu
        210                 215                 220

Ala Arg Gln Arg Lys Leu Arg Leu Phe Lys Asp Gly Lys Met Lys Tyr
225                 230                 235                 .240

Gln Ile Ile Asp Gly Glu Met Tyr Pro Pro Thr Val Lys Asp Thr Gln
                245                 250                 255

Ala Glu Met Ile Tyr Pro Pro Gln Val Pro Glu His Leu Arg Phe Ala
            260                 265                 270

Val Gly Gln Glu Val Phe Gly Leu Val Pro Gly Leu Met Met Tyr Ala
        275                 280                 285

Thr Ile Trp Leu Arg Glu His Asn Arg Val Cys Asp Val Leu Lys Gln
    290                 295                 300

Glu His Pro Glu Trp Gly Asp Glu Gln Leu Phe Gln Thr Ser Arg Leu
305                 310                 315                 320

Ile Leu Ile Gly Glu Thr Ile Lys Ile Val Ile Glu Asp Tyr Val Gln
                325                 330                 335

His Leu Ser Gly Tyr His Phe Lys Leu Lys Phe Asp Pro Glu Leu Leu
            340                 345                 350

Phe Asn Lys Gln Phe Gln Tyr Gln Asn Arg Ile Ala Ala Glu Phe Asn
        355                 360                 365

Thr Leu Tyr His Trp His Pro Leu Leu Pro Asp Thr Phe Gln Ile His
    370                 375                 380

Asp Gln Lys Tyr Asn Tyr Gln Gln Phe Ile Tyr Asn Asn Ser Ile Leu
385                 390                 395                 400
```

Leu Glu His Gly Ile Thr Gln Phe Val Glu Ser Phe Thr Arg Gln Ile
                405   410   415

Ala Gly Arg Val Ala Gly Gly Arg Asn Val Pro Pro Ala Val Gln Lys
            420   425   430

Val Ser Gln Ala Ser Ile Asp Gln Ser Arg Gln Met Lys Tyr Gln Ser
        435   440   445

Phe Asn Glu Tyr Arg Lys Arg Phe Met Leu Lys Pro Tyr Glu Ser Phe
    450   455   460

Glu Glu Leu Thr Gly Glu Lys Glu Met Ser Ala Glu Leu Glu Ala Leu
465   470   475   480

Tyr Gly Asp Ile Asp Ala Val Glu Leu Tyr Pro Ala Leu Leu Val Glu
            485   490   495

Lys Pro Arg Pro Asp Ala Ile Phe Gly Glu Thr Met Val Glu Val Gly
        500   505   510

Ala Pro Phe Ser Leu Lys Gly Leu Met Gly Asn Val Ile Cys Ser Pro
        515   520   525

Ala Tyr Trp Lys Pro Ser Thr Phe Gly Gly Glu Val Gly Phe Gln Ile
    530   535   540

Ile Asn Thr Ala Ser Ile Gln Ser Leu Ile Cys Asn Asn Val Lys Gly
545   550   555   560

Cys Pro Phe Thr Ser Phe Ser Val Pro Asp Pro Glu Leu Ile Lys Thr
            565   570   575

Val Thr Ile Asn Ala Ser Ser Ser Arg Ser Gly Leu Asp Asp Ile Asn
            580   585   590

Pro Thr Val Leu Leu Lys Glu Arg Ser Thr Glu Leu
        595   600

<210>   163
<211>   117
<212>   PRT
<213>   Human

<400>   163

```
Met Arg Ala Ser Ser Phe Leu Ile Val Val Val Phe Leu Ile Ala Gly
1             5             10            15
```

```
Thr Leu Val Leu Glu Ala Ala Val Thr Gly Val Pro Val Lys Gly Gln
              20            25            30
```

```
Asp Thr Val Lys Gly Arg Val Pro Phe Asn Gly Gln Asp Pro Val Lys
          35            40            45
```

```
Gly Gln Val Ser Val Lys Gly Gln Asp Lys Val Lys Ala Gln Glu Pro
      50            55            60
```

```
Val Lys Gly Pro Val Ser Thr Lys Pro Gly Ser Cys Pro Ile Ile Leu
65            70            75            80
```

```
Ile Arg Cys Ala Met Leu Asn Pro Pro Asn Arg Cys Leu Lys Asp Thr
              85            90            95
```

```
Asp Cys Pro Gly Ile Lys Lys Cys Cys Glu Gly Ser Cys Gly Met Ala
              100           105           110
```

```
Cys Phe Val Pro Gln
          115
```

```
<210>   164
<211>   464
<212>   PRT
<213>   Human

<400>   164
```

```
Met Ala Gly Gln Asp Pro Ala Leu Ser Thr Ser His Pro Phe Tyr Asp
1             5             10            15
```

```
Val Ala Arg His Gly Ile Leu Gln Val Ala Gly Asp Asp Arg Phe Gly
              20            25            30
```

```
Arg Arg Val Val Thr Phe Ser Cys Cys Arg Met Pro Pro Ser His Glu
          35            40            45
```

```
Leu Asp His Gln Arg Leu Leu Glu Tyr Leu Lys Tyr Thr Leu Asp Gln
      50            55            60
```

```
Tyr Val Glu Asn Asp Tyr Thr Ile Val Tyr Phe His Tyr Gly Leu Asn
65            70            75            80
```

Ser Arg Asn Lys Pro Ser Leu Gly Trp Leu Gln Ser Ala Tyr Lys Glu
                85   90   95

Phe Asp Arg Lys Asp Gly Asp Leu Thr Met Trp Pro Arg Leu Val Ser
            100   105   110

Asn Ser Lys Leu Lys Arg Ser Ser His Leu Ser Leu Pro Lys Tyr Trp
        115   120   125

Asp Tyr Arg Tyr Lys Lys Asn Leu Lys Ala Leu Tyr Val Val His Pro
    130   135   140

Thr Ser Phe Ile Lys Val Leu Trp Asn Ile Leu Lys Pro Leu Ile Ser
145   150   155   160

His Lys Phe Gly Lys Lys Val Ile Tyr Phe Asn Tyr Leu Ser Glu Leu
                165   170   175

His Glu His Leu Lys Tyr Asp Gln Leu Val Ile Pro Pro Glu Val Leu
            180   185   190

Arg Tyr Asp Glu Lys Leu Gln Ser Leu His Glu Gly Arg Thr Pro Pro
    195   200   205

Pro Thr Lys Thr Pro Pro Pro Arg Pro Pro Leu Pro Thr Gln Gln Phe
210   215   220

Gly Val Ser Leu Gln Tyr Leu Lys Asp Lys Asn Gln Gly Glu Leu Ile
225   230   235   240

Pro Pro Val Leu Arg Phe Thr Val Thr Tyr Leu Arg Glu Lys Gly Leu
            245   250   255

Arg Thr Glu Gly Leu Phe Arg Arg Ser Ala Ser Val Gln Thr Val Arg
        260   265   270

Glu Ile Gln Arg Leu Tyr Asn Gln Gly Lys Pro Val Asn Phe Asp Asp
    275   280   285

Tyr Gly Asp Ile His Ile Pro Ala Val Ile Leu Lys Thr Phe Leu Arg
290   295   300

Glu Leu Pro Gln Pro Leu Leu Thr Phe Gln Ala Tyr Glu Gln Ile Leu
305   310   315   320

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Gly Ile Thr Cys Val Glu Ser Ser Leu Arg Val Thr Gly Cys Arg Gln
              325   330   335

Ile Leu Arg Ser Leu Pro Glu His Asn Tyr Val Val Leu Arg Tyr Leu
          340   345   350

Met Gly Phe Leu His Ala Val Ser Arg Glu Ser Ile Phe Asn Lys Met
          355   360   365

Asn Ser Ser Asn Leu Ala Cys Val Phe Gly Leu Asn Leu Ile Trp Pro
      370   375   380

Ser Gln Gly Val Ser Ser Leu Ser Ala Leu Val Pro Leu Asn Met Phe
385   390   395   400

Thr Glu Leu Leu Ile Glu Tyr Tyr Glu Lys Ile Phe Ser Thr Pro Glu
              405   410   415

Ala Pro Gly Glu His Gly Leu Ala Pro Trp Glu Gln Gly Ser Arg Ala
          420   425   430

Ala Pro Leu Gln Glu Ala Val Pro Arg Thr Gln Ala Thr Gly Leu Thr
          435   440   445

Lys Pro Thr Leu Pro Pro Ser Pro Leu Met Ala Ala Arg Arg Arg Leu
      450   455   460

<210> 165
<211> 156
<212> PRT
<213> Human

<400> 165

Met Ala Leu Glu Lys Ser Leu Val Arg Leu Leu Leu Leu Val Leu Ile
1   5   10   15

Leu Leu Val Leu Gly Trp Val Gln Pro Ser Leu Gly Lys Glu Ser Arg
              20   25   30

Ala Lys Lys Phe Gln Arg Gln His Met Asp Ser Asp Ser Ser Pro Ser
          35   40   45

Ser Ser Ser Thr Tyr Cys Asn Gln Met Met Arg Arg Arg Asn Met Thr
      50   55   60

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Gln Gly Arg Cys Lys Pro Val Asn Thr Phe Val His Glu Pro Leu Val
65   70   75   80

Asp Val Gln Asn Val Cys Phe Gln Glu Lys Val Thr Cys Lys Asn Gly
                85   90   95

Gln Gly Asn Cys Tyr Lys Ser Asn Ser Ser Met His Ile Thr Asp Cys
            100   105   110

Arg Leu Thr Asn Gly Ser Arg Tyr Pro Asn Cys Ala Tyr Arg Thr Ser
        115   120   125

Pro Lys Glu Arg His Ile Ile Val Ala Cys Glu Gly Ser Pro Tyr Val
    130   135   140

Pro Val His Phe Asp Ala Ser Val Glu Asp Ser Thr
145   150   155

<210> 166
<211> 375
<212> PRT
<213> Human

<400> 166

Met Asp Ala Leu Gln Leu Ala Asn Ser Ala Phe Ala Val Asp Leu Phe
1   5   10   15

Lys Gln Leu Cys Glu Lys Glu Pro Leu Gly Asn Val Leu Phe Ser Pro
            20   25   30

Ile Cys Leu Ser Thr Ser Leu Ser Leu Ala Gln Val Gly Ala Lys Gly
        35   40   45

Asp Thr Ala Asn Glu Ile Gly Gln Val Leu His Phe Glu Asn Val Lys
    50   55   60

Asp Ile Pro Phe Gly Phe Gln Thr Val Thr Ser Asp Val Asn Lys Leu
65   70   75   80

Ser Ser Phe Tyr Ser Leu Lys Leu Ile Lys Arg Leu Tyr Val Asp Lys
                85   90   95

Ser Leu Asn Leu Ser Thr Glu Phe Ile Ser Ser Thr Lys Arg Pro Tyr
            100   105   110

Ala Lys Glu Leu Glu Thr Val Asp Phe Lys Asp Lys Leu Glu Glu Thr
        115   120   125

Lys Gly Gln Ile Asn Asn Ser Ile Lys Asp Leu Thr Asp Gly His Phe
        130   135   140

Glu Asn Ile Leu Ala Asp Asn Ser Val Asn Asp Gln Thr Lys Ile Leu
145   150   155   160

Val Val Asn Ala Ala Tyr Phe Val Gly Lys Trp Met Lys Lys Phe Pro
                165   170   175

Glu Ser Glu Thr Lys Glu Cys Pro Phe Arg Leu Asn Lys Thr Asp Thr
                180   185   190

Lys Pro Val Gln Met Met Asn Met Glu Ala Thr Phe Cys Met Gly Asn
            195   200   205

Ile Asp Ser Ile Asn Cys Lys Ile Ile Glu Leu Pro Phe Gln Asn Lys
    210   215   220

His Leu Ser Met Phe Ile Leu Leu Pro Lys Asp Val Glu Asp Glu Ser
225   230   235   240

Thr Gly Leu Glu Lys Ile Glu Lys Gln Leu Asn Ser Glu Ser Leu Ser
            245   250   255

Gln Trp Thr Asn Pro Ser Thr Met Ala Asn Ala Lys Val Lys Leu Ser
            260   265   270

Ile Pro Lys Phe Lys Val Glu Lys Met Ile Asp Pro Lys Ala Cys Leu
        275   280   285

Glu Asn Leu Gly Leu Lys His Ile Phe Ser Glu Asp Thr Ser Asp Phe
        290   295   300

Ser Gly Met Ser Glu Thr Lys Gly Val Ala Leu Ser Asn Val Ile His
305   310   315   320

Lys Val Cys Leu Glu Ile Thr Glu Asp Gly Gly Asp Ser Ile Glu Val
            325   330   335

Pro Gly Ala Arg Ile Leu Gln His Lys Asp Glu Leu Asn Ala Asp His
            340   345   350

```
Pro Phe Ile Tyr Ile Ile Arg His Asn Lys Thr Arg Asn Ile Ile Phe
        355                 360                 365

Phe Gly Lys Phe Cys Ser Pro
    370             375
```

```
<210>  167
<211>  240
<212>  PRT
<213>  Human

<400>  167
```

```
Met Leu Ala Leu Leu Cys Ser Cys Leu Leu Ala Ala Gly Ala Ser
1               5               10                  15

Asp Ala Trp Thr Gly Glu Asp Ser Ala Glu Pro Asn Ser Asp Ser Ala
        20              25                  30

Glu Trp Ile Arg Asp Met Tyr Ala Lys Val Thr Glu Ile Trp Gln Glu
        35              40                  45

Val Met Gln Arg Arg Asp Asp Gly Thr Leu His Ala Ala Cys Gln
    50              55                  60

Val Gln Pro Ser Ala Thr Leu Asp Ala Ala Gln Pro Arg Val Thr Gly
65                  70              75                  80

Val Val Leu Phe Arg Gln Leu Ala Pro Arg Ala Lys Leu Asp Ala Phe
                85                  90                  95

Phe Ala Leu Glu Gly Phe Pro Thr Glu Pro Asn Ser Ser Ser Arg Ala
            100                 105                 110

Ile His Val His Gln Phe Gly Asp Leu Ser Gln Gly Cys Glu Ser Thr
            115                 120                 125

Gly Pro His Tyr Asn Pro Leu Ala Val Pro His Pro Gln His Pro Gly
    130                 135                 140

Asp Phe Gly Asn Phe Ala Val Arg Asp Gly Ser Leu Trp Arg Tyr Arg
145                 150                 155                 160

Ala Gly Leu Ala Ala Ser Leu Ala Gly Pro His Ser Ile Val Gly Arg
                165                 170                 175
```

Ala Val Val Val His Ala Gly Glu Asp Asp Leu Gly Arg Gly Gly Asn
          180   185   190

Gln Ala Ser Val Glu Asn Gly Asn Ala Gly Arg Arg Leu Ala Cys Cys
          195   200   205

Val Val Gly Val Cys Gly Pro Gly Leu Trp Glu Arg Gln Ala Arg Glu
          210   215   220 .

His Ser Glu Arg Lys Lys Arg Arg Arg Glu Ser Glu Cys Lys Ala Ala
225   230   235   240

<210>   168
<211>   283
<212>   PRT
<213>   Human

<400>   168

Met Glu Pro Pro Gly Asp Trp Gly Pro Pro Trp Arg Ser Thr Pro
1   5   10   15

Arg Thr Asp Val Leu Arg Leu Val Leu Tyr Leu Thr Phe Leu Gly Ala
          20   25   30

Pro Cys Tyr Ala Pro Ala Leu Pro Ser Cys Lys Glu Asp Glu Tyr Pro
          35   40   45

Val Gly Ser Glu Cys Cys Pro Lys Cys Ser Pro Gly Tyr Arg Val Lys
          50   55   60

Glu Ala Cys Gly Glu Leu Thr Gly Thr Val Cys Glu Pro Cys Pro Pro
65   70   75   80

Gly Thr Tyr Ile Ala His Leu Asn Gly Leu Ser Lys Cys Leu Gln Cys
                85   90   95

Gln Met Cys Asp Pro Ala Met Gly Leu Arg Ala Ser Arg Asn Cys Ser
          100   105   110

Arg Thr Glu Asn Ala Val Cys Gly Cys Ser Pro Gly His Phe Cys Ile
          115   120   125

Val Gln Asp Gly Asp His Cys Ala Ala Cys Arg Ala Tyr Ala Thr Ser
130   135   140

Ser Pro Gly Gln Arg Val Gln Lys Gly Gly Thr Glu Ser Gln Asp Thr
145   150   155   160

Leu Cys Gln Asn Cys Pro Pro Gly Thr Phe Ser Pro Asn Gly Thr Leu
                165   170   175

Glu Glu Cys Gln His Gln Thr Lys Cys Ser Trp Leu Val Thr Lys Ala
            180   185   190

Gly Ala Gly Thr Ser Ser Ser His Trp Val Trp Trp Phe Leu Ser Gly
        195   200   205

Ser Leu Val Ile Val Ile Val Cys Ser Thr Val Gly Leu Ile Ile Cys
    210   215   220

Val Lys Arg Arg Lys Pro Arg Gly Asp Val Val Lys Val Ile Val Ser
225   230   235   240

Val Gln Arg Lys Arg Gln Glu Ala Glu Gly Glu Ala Thr Val Ile Glu
                245   250   255

Ala Leu Gln Ala Pro Pro Asp Val Thr Thr Val Ala Val Glu Glu Thr
            260   265   270

Ile Pro Ser Phe Thr Gly Arg Ser Pro Asn His
        275   280

<210> 169
<211> 335
<212> PRT
<213> Human

<400> 169

Met Leu Gly Ile Trp Thr Leu Leu Pro Leu Val Leu Thr Ser Val Ala
1   5   10   15

Arg Leu Ser Ser Lys Ser Val Asn Ala Gln Val Thr Asp Ile Asn Ser
        20   25   30

Lys Gly Leu Glu Leu Arg Lys Thr Val Thr Val Glu Thr Gln Asn
        35   40   45

Leu Glu Gly Leu His His Asp Gly Gln Phe Cys His Lys Pro Cys Pro
    50   55   60

```
Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro
65            70              75              80


Asp Cys Val Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp Lys Ala His
            85              90              95


Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly
            100             105             110


Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg
        115             120             125


Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp
        130             135             140


Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr
145             150             155             160


Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Leu Gly Trp
            165             170             175


Leu Cys Leu Leu Leu Leu Pro Ile Pro Leu Ile Val Trp Val Lys Arg
        180             185             190


Lys Glu Val Gln Lys Thr Cys Arg Lys His Arg Lys Glu Asn Gln Gly
        195             200             205


Ser His Glu Ser Pro Thr Leu Asn Pro Glu Thr Val Ala Ile Asn Leu
    210             215             220


Ser Asp Val Asp Leu Ser Lys Tyr Ile Thr Thr Ile Ala Gly Val Met
225             230             235             240


Thr Leu Ser Gln Val Lys Gly Phe Val Arg Lys Asn Gly Val Asn Glu
            245             250             255


Ala Lys Ile Asp Glu Ile Lys Asn Asp Asn Val Gln Asp Thr Ala Glu
            260             265             270


Gln Lys Val Gln Leu Leu Arg Asn Trp His Gln Leu His Gly Lys Lys
        275             280             285


Glu Ala Tyr Asp Thr Leu Ile Lys Asp Leu Lys Lys Ala Asn Leu Cys
```

```
        290                  295                  300


Thr Leu Ala Glu Lys Ile Gln Thr Ile Ile Leu Lys Asp Ile Thr Ser
305             310             315             320


Asp Ser Glu Asn Ser Asn Phe Arg Asn Glu Ile Gln Ser Leu Val
                325             330             335


<210>  170
<211>  207
<212>  PRT
<213>  Human

<400>  170

Met Asn Val Ala Arg Phe Leu Val Glu Lys His Thr Leu His Val Ile
1               5               10              15


Ile Asp Phe Ile Leu Ser Lys Val Ser Asn Gln Gln Ser Asn Leu Ala
            20              25              30


Gln His Gln Arg Val Tyr Thr Gly Glu Lys Pro Tyr Lys Cys Asn Glu
        35              40              45


Trp Gly Lys Ala Leu Ser Gly Lys Ser Ser Leu Phe Tyr His Gln Ala
    50              55              60


Ile His Gly Val Gly Lys Leu Cys Lys Cys Asn Asp Cys His Lys Val
65              70              75              80


Phe Ser Asn Ala Thr Thr Ile Ala Asn His Trp Arg Ile His Asn Glu
            85              90              95


Asp Arg Ser Tyr Lys Cys Asn Lys Cys Gly Lys Ile Phe Arg His Arg
            100             105             110


Ser Tyr Leu Ala Val Tyr Gln Arg Thr His Thr Gly Glu Lys Pro Tyr
    115             120             125


Lys Tyr His Asp Cys Gly Lys Val Phe Ser Gln Ala Ser Ser Tyr Ala
    130             135             140


Lys His Arg Arg Ile His Thr Gly Glu Lys Pro His Lys Cys Asp Asp
145             150             155             160


Cys Gly Lys Val Leu Thr Ser Arg Ser His Leu Ile Arg His Gln Arg
```

                    165   170   175

Ile His Thr Gly Gln Lys Ser Tyr Lys Cys Leu Lys Cys Gly Lys Val
            180   185   190

Phe Ser Leu Trp Ala Leu His Ala Glu His Gln Lys Ile His Phe
        195   200   205

<210>   171
<211>   158
<212>   PRT
<213>   Human

<400>   171

Met Ala Ser Arg Ser Met Arg Leu Leu Leu Leu Ser Cys Leu Ala
1   5   10   15

Lys Thr Gly Val Leu Gly Asp Ile Ile Met Arg Pro Ser Cys Ala Pro
            20   25   30

Gly Trp Phe Tyr His Lys Ser Asn Cys Tyr Gly Tyr Phe Arg Lys Leu
        35   40   45

Arg Asn Trp Ser Asp Ala Glu Leu Glu Cys Gln Ser Tyr Gly Asn Gly
    50   55   60

Ala His Leu Ala Ser Ile Leu Ser Leu Lys Glu Ala Ser Thr Ile Ala
65   70   75   80

Glu Tyr Ile Ser Gly Tyr Gln Arg Ser Gln Pro Ile Trp Ile Gly Leu
            85   90   95

His Asp Pro Gln Lys Arg Gln Gln Trp Gln Trp Ile Asp Gly Ala Met
        100   105   110

Tyr Leu Tyr Arg Ser Trp Ser Gly Lys Ser Met Gly Gly Asn Lys His
        115   120   125

Cys Ala Glu Met Ser Ser Asn Asn Asn Phe Leu Thr Trp Ser Ser Asn
    130   135   140

Glu Cys Asn Lys Arg Gln His Phe Leu Cys Lys Tyr Arg Pro
145   150   155

<210>   172

<211> 432
<212> PRT
<213> Human

<400> 172

```
Met Gly Pro Ala Gly Ser Leu Leu Gly Ser Gly Gln Met Gln Ile Thr
1               5                   10                  15

Leu Trp Gly Ser Leu Ala Ala Val Ala Ile Phe Phe Val Ile Thr Phe
            20                  25                  30

Leu Ile Phe Pro Cys Ser Ser Cys Asp Arg Glu Lys Lys Pro Arg Gln
        35                  40                  45

His Ser Gly Asp His Glu Asn Leu Met Asn Val Pro Ser Asp Lys Glu
    50                  55                  60

Met Phe Ser Arg Ser Val Thr Ser Leu Ala Thr Asp Ala Pro Ala Ser
65                  70                  75                  80

Ser Glu Gln Asn Gly Ala Leu Thr Asn Gly Asp Ile Leu Ser Glu Asp
                85                  90                  95

Ser Thr Leu Thr Cys Met Gln His Tyr Glu Glu Val Gln Thr Ser Ala
            100                 105                 110

Ser Asp Leu Leu Asp Ser Gln Asp Ser Thr Gly Lys Pro Lys Cys His
        115                 120                 125

Gln Ser Arg Glu Leu Pro Arg Ile Pro Pro Glu Ser Ala Val Asp Thr
    130                 135                 140

Met Leu Thr Ala Arg Ser Val Asp Gly Asp Gln Gly Leu Gly Met Glu
145                 150                 155                 160

Gly Pro Tyr Glu Val Leu Lys Asp Ser Ser Ser Gln Glu Asn Met Val
                165                 170                 175

Glu Asp Cys Leu Tyr Glu Thr Val Lys Glu Ile Lys Glu Val Ala Ala
            180                 185                 190

Ala Ala His Leu Glu Lys Gly His Ser Gly Lys Ala Lys Ser Thr Ser
        195                 200                 205

Ala Ser Lys Glu Leu Pro Gly Pro Gln Thr Glu Gly Lys Ala Glu Phe
```

```
          210                    215                    220


Ala Glu Tyr Ala Ser Val Asp Arg Asn Lys Lys Cys Arg Gln Ser Val
225                 230                 235                 240


Asn Val Glu Ser Ile Leu Gly Asn Ser Cys Asp Pro Glu Glu Glu Ala
                245                 250                 255


Pro Pro Pro Val Pro Val Lys Leu Leu Asp Glu Asn Glu Asn Leu Gln
                260                 265                 270


Glu Lys Glu Gly Gly Glu Ala Glu Glu Ser Ala Thr Asp Thr Thr Ser
            275                 280                 285


Glu Thr Asn Lys Arg Phe Ser Ser Leu Ser Tyr Lys Ser Arg Glu Glu
        290                 295                 300


Asp Pro Thr Leu Thr Glu Glu Glu Ile Ser Ala Met Tyr Ser Ser Val
305                 310                 315                 320


Asn Lys Pro Gly Gln Leu Val Asn Lys Ser Gly Gln Ser Leu Thr Val
                325                 330                 335


Pro Glu Ser Thr Tyr Thr Ser Ile Gln Gly Asp Pro Gln Arg Ser Pro
                340                 345                 350


Ser Ser Cys Asn Asp Leu Tyr Ala Thr Val Lys Asp Phe Glu Lys Thr
            355                 360                 365


Pro Asn Ser Thr Leu Pro Pro Ala Gly Arg Pro Ser Glu Glu Pro Glu
    370                 375                 380


Pro Asp Tyr Glu Ala Ile Gln Thr Leu Asn Arg Glu Glu Glu Lys Ala
385                 390                 395                 400


Thr Leu Gly Thr Asn Gly His His Gly Leu Val Pro Lys Glu Asn Asp
                405                 410                 415


Tyr Glu Ser Ile Ser Asp Leu Gln Gln Gly Arg Asp Ile Thr Arg Leu
                420                 425                 430
```

<210> 173
<211> 174
<212> PRT
<213> Human

<400>   173

Lys Pro Phe Arg Cys Glu Asn Cys Asn Glu Arg Phe Gln Tyr Lys Tyr
1   5   10   15

Gln Leu Arg Ser His Met Ser Ile His Ile Gly His Lys Gln Phe Met
        20   25   30

Cys Gln Trp Cys Gly Lys Asp Phe Asn Met Lys Gln Tyr Phe Asp Glu
        35   40   45

His Met Lys Thr His Thr Gly Glu Lys Pro Tyr Ile Cys Glu Ile Cys
    50   55   60

Gly Lys Ser Phe Thr Ser Arg Pro Asn Met Lys Arg His Arg Arg Thr
65   70   75   80

His Thr Gly Glu Lys Pro Tyr Pro Cys Asp Val Cys Gly Gln Arg Phe
            85   90   95

Arg Phe Ser Asn Met Leu Lys Ala His Lys Glu Lys Cys Phe Arg Val
            100   105   110

Ser His Thr Leu Ala Gly Asp Gly Val Pro Ala Ala Pro Gly Leu Pro
    115   120   125

Pro Thr Gln Pro Gln Ala His Ala Leu Pro Leu Leu Pro Gly Leu Pro
    130   135   140

Gln Thr Leu Pro Pro Pro Pro His Leu Pro Pro Pro Pro Pro Leu Phe
145   150   155   160

Pro Thr Thr Ala Ser Pro Gly Gly Arg Met Asn Ala Asn Asn
            165   170

<210>   174
<211>   917
<212>   PRT
<213>   Human

<400>   174

Ala Ser Pro Arg Gly Thr Glu Ala Ser Pro Gln Asn Asn Ser Gly
1   5   10   15

Ser Ser Ser Pro Val Phe Thr Phe Arg His Pro Leu Leu Ser Ser Gly

```
                    20                    25                    30


    Gly Pro Gln Ser Pro Leu Arg Gly Ser Thr Gly Ser Leu Lys Ser Ser
            35                  40                  45


    Pro Ser Met Ser His Met Glu Ala Leu Gly Lys Ala Trp Asn Arg Gln
            50                  55                  60


    Leu Ser Arg Pro Leu Ser Gln Ala Val Ser Phe Ser Thr Pro Phe Gly
    65                  70                  75                  80


    Leu Asp Ser Asp Val Asp Val Val Met Gly Asp Pro Val Leu Leu Arg
                    85                  90                  95


    Ser Val Ser Ser Asp Ser Leu Gly Pro Pro Arg Pro Ala Pro Ala Arg
                    100                 105                 110


    Thr Pro Thr Gln Pro Pro Pro Glu Pro Gly Asp Leu Pro Thr Ile Glu
            115                 120                 125


    Glu Ala Leu Gln Ile Ile His Ser Ala Glu Pro Arg Leu Leu Pro Asp
            130                 135                 140


    Gly Ala Ala Asp Gly Ser Phe Tyr Leu His Ser Pro Glu Gly Pro Ser
    145                 150                 155                 160


    Lys Pro Ser Leu Ala Ser Pro Tyr Leu Pro Glu Gly Thr Ser Lys Pro
                    165                 170                 175


    Leu Ser Asp Arg Pro Thr Lys Ala Pro Val Tyr Met Pro His Pro Glu
                    180                 185                 190


    Thr Pro Ser Lys Pro Ser Pro Cys Leu Val Gly Glu Ala Ser Lys Pro
            195                 200                 205


    Pro Ala Pro Ser Glu Gly Ser Pro Lys Ala Val Ala Ser Ser Pro Ala
            210                 215                 220


    Ala Thr Asn Ser Glu Val Lys Met Thr Ser Phe Ala Glu Arg Lys Lys
    225                 230                 235                 240


    Gln Leu Val Lys Ala Glu Ala Glu Ala Gly Ala Gly Ser Pro Thr Ser
                    245                 250                 255
```

```
Thr Pro Ala Pro Pro Glu Ala Leu Ser Ser Glu Met Ser Glu Leu Ser
         260             265             270

Ala Arg Leu Glu Glu Lys Arg Arg Ala Ile Glu Ala Gln Lys Arg Arg
         275             280             285

Ile Glu Ala Ile Phe Ala Lys His Arg Gln Arg Leu Gly Lys Ser Ala
290             295             300

Phe Leu Gln Val Gln Pro Arg Glu Ala Ser Gly Glu Ala Glu Ala Glu
305             310             315             320

Ala Glu Glu Ala Asp Ser Gly Pro Val Pro Gly Gly Glu Arg Pro Ala
             325             330             335

Gly Glu Gly Gln Gly Glu Pro Thr Ser Arg Pro Lys Ala Val Thr Phe
         340             345             350

Ser Pro Asp Leu Gly Pro Val Pro His Glu Gly Leu Gly Glu Tyr Asn
         355             360             365

Arg Ala Val Ser Lys Leu Ser Ala Ala Leu Ser Ser Leu Gln Arg Asp
370             375             380

Met Gln Arg Leu Thr Asp Gln Gln Gln Arg Leu Leu Ala Pro Pro Glu
385             390             395             400

Ala Pro Gly Ser Ala Pro Pro Pro Ala Ala Trp Val Ile Pro Gly Pro
             405             410             415

Thr Thr Gly Pro Lys Ala Ala Ser Pro Ser Pro Ala Arg Arg Val Pro
         420             425             430

Ala Thr Arg Arg Ser Pro Gly Pro Gly Pro Ser Gln Ser Pro Arg Ser
         435             440             445

Pro Lys His Thr Arg Pro Ala Glu Leu Arg Leu Ala Pro Leu Thr Arg
    450             455             460

Val Leu Thr Pro Pro His Asp Val Asp Ser Leu Pro His Leu Arg Lys
465             470             475             480

Phe Ser Pro Ser Gln Val Pro Val Gln Thr Arg Ser Ser Ile Leu Leu
             485             490             495
```

Ala Glu Glu Thr Pro Pro Glu Glu Pro Ala Ala Arg Pro Gly Leu Ile
         500   505   510

Glu Ile Pro Leu Gly Ser Leu Ala Asp Pro Ala Ala Glu Asp Glu Gly
     515   520   525

Asp Gly Ser Pro Ala Gly Ala Glu Asp Ser Leu Glu Glu Glu Ala Ser
   530   535   540

Ser Glu Gly Glu Pro Arg Val Gly Leu Gly Phe Phe Tyr Lys Asp Glu
545   550   555   560

Asp Lys Pro Glu Asp Glu Met Ala Gln Lys Arg Ala Ser Leu Leu Glu
        565   570   575

Arg Gln Gln Arg Arg Ala Glu Glu Ala Arg Arg Arg Lys Gln Trp Gln
      580   585   590

Glu Val Glu Lys Glu Gln Arg Arg Glu Glu Ala Ala Arg Leu Ala Gln
   595   600   605

Glu Glu Ala Pro Gly Pro Ala Pro Leu Val Ser Ala Val Pro Met Ala
610   615   620

Thr Pro Ala Pro Ala Ala Arg Ala Pro Ala Glu Glu Val Gly Pro
625   630   635   640

Arg Lys Gly Asp Phe Thr Arg Gln Glu Tyr Glu Arg Arg Ala Gln Leu
        645   650   655

Lys Leu Met Asp Asp Leu Asp Lys Val Leu Arg Pro Arg Ala Ala Gly
        660   665   670

Ser Gly Gly Pro Gly Arg Gly Gly Arg Arg Ala Thr Arg Pro Arg Ser
      675   680   685

Gly Cys Cys Asp Asp Ser Ala Leu Ala Arg Ser Pro Ala Arg Gly Leu
      690   695   700

Leu Gly Ser Arg Leu Ser Lys Ile Tyr Ser Gln Ser Thr Leu Ser Leu
705   710   715   720

Ser Thr Val Ala Asn Glu Ala His Asn Asn Leu Gly Val Lys Arg Pro
        725   730   735

```
Thr Ser Arg Ala Pro Ser Pro Ser Gly Leu Met Ser Pro Ser Arg Leu
             740             745             750

Pro Gly Ser Arg Glu Arg Asp Trp Glu Asn Gly Ser Asn Ala Ser Ser
         755             760             765

Pro Ala Ser Val Pro Glu Tyr Thr Gly Pro Arg Leu Tyr Lys Glu Pro
     770             775             780

Ser Ala Lys Ser Asn Lys Phe Ile Ile His Asn Ala Leu Ser His Cys
785             790             795             800

Cys Leu Ala Gly Lys Val Asn Glu Pro Gln Lys Asn Arg Ile Leu Glu
             805             810             815

Glu Ile Glu Lys Ser Lys Ala Asn His Phe Leu Ile Leu Phe Arg Asp
             820             825             830

Ser Ser Cys Gln Phe Arg Ala Leu Tyr Thr Leu Ser Gly Glu Thr Glu
         835             840             845

Glu Leu Ser Arg Leu Ala Gly Tyr Gly Pro Arg Thr Val Thr Pro Ala
     850             855             860

Met Val Glu Gly Ile Tyr Lys Tyr Asn Ser Asp Arg Lys Arg Phe Thr
865             870             875             880

Gln Ile Pro Ala Lys Thr Met Ser Met Ser Val Asp Ala Phe Thr Ile
             885             890             895

Gln Gly His Leu Trp Gln Gly Lys Lys Pro Thr Thr Pro Lys Lys Gly
             900             905             910

Gly Gly Thr Pro Lys
         915
```

```
<210>  175
<211>  600
<212>  PRT
<213>  Human

<400>  175

Met Arg Ser Cys Leu Trp Arg Cys Arg His Leu Ser Gln Gly Val Gln
1               5               10              15
```

Trp Ser Leu Leu Leu Ala Val Leu Val Phe Phe Leu Phe Ala Leu Pro
            20   25   30

Ser Phe Ile Lys Glu Pro Gln Thr Lys Pro Ser Arg His Gln Arg Thr
            35   40   45

Glu Asn Ile Lys Glu Arg Ser Leu Gln Ser Leu Ala Lys Pro Lys Ser
    50   55   60

Gln Ala Pro Thr Arg Ala Arg Arg Thr Thr Ile Tyr Ala Glu Pro Val
65   70   75   80

Pro Glu Asn Asn Ala Leu Asn Thr Gln Thr Gln Pro Lys Ala His Thr
            85   90   ·95

Thr Gly Asp Arg Gly Lys Glu Ala Asn Gln Ala Pro Pro Glu Glu Gln
            100   105   110

Asp Lys Val Pro His Thr Ala Gln Arg Ala Ala Trp Lys Ser Pro Glu
    115   120   125

Lys Glu Lys Thr Met Val Asn Thr Leu Ser Pro Arg Gly Gln Asp Ala
    130   135   140

Gly Met Ala Ser Gly Arg Thr Glu Ala Gln Ser Trp Lys Ser Gln Asp
145   150   155   160

Thr Lys Thr Thr Gln Gly Asn Gly Gly Gln Thr Arg Lys Leu Thr Ala
            165   170   175

Ser Arg Thr Val Ser Glu Lys His Gln Gly Lys Ala Ala Thr Thr Ala
            180   185   190

Lys Thr Leu Ile Pro Lys Ser Gln His Arg Met Leu Ala Pro Thr Gly
    195   200   205

Ala Val Ser Thr Arg Thr Arg Gln Lys Gly Val Thr Thr Ala Val Ile
    210   215   220

Pro Pro Lys Glu Lys Lys Pro Gln Ala Thr Pro Pro Pro Ala Pro Phe
225   230   235   240

Gln Ser Pro Thr Thr Gln Arg Asn Gln Arg Leu Lys Ala Ala Asn Phe

```
                    245                 250                 255

Lys Ser Glu Pro Arg Trp Asp Phe Glu Glu Lys Tyr Ser Phe Glu Ile
            260             265             270

Gly Gly Leu Gln Thr Thr Cys Pro Asp Ser Val Lys Ile Lys Ala Ser
            275             280             285

Lys Ser Leu Trp Leu Gln Lys Leu Phe Leu Pro Asn Leu Thr Leu Phe
    290             295             300

Leu Asp Ser Arg His Phe Asn Gln Ser Glu Trp Asp Arg Leu Glu His
305             310             315             320

Phe Ala Pro Pro Phe Gly Phe Met Glu Leu Asn Tyr Ser Leu Val Gln
            325             330             335

Lys Val Val Thr Arg Phe Pro Pro Val Pro Gln Gln Gln Leu Leu Leu
            340             345             350

Ala Ser Leu Pro Ala Gly Ser Leu Arg Cys Ile Thr Cys Ala Val Val
    355             360             365

Gly Asn Gly Gly Ile Leu Asn Asn Ser His Met Gly Gln Glu Ile Asp
    370             375             380

Ser His Asp Tyr Val Phe Arg Leu Ser Gly Ala Leu Ile Lys Gly Tyr
385             390             395             400

Glu Gln Asp Val Gly Thr Arg Thr Ser Phe Tyr Gly Phe Thr Ala Phe
            405             410             415

Ser Leu Thr Gln Ser Leu Leu Ile Leu Gly Asn Arg Gly Phe Lys Asn
            420             425             430

Val Pro Leu Gly Lys Asp Val Arg Tyr Leu His Phe Leu Glu Gly Thr
            435             440             445

Arg Asp Tyr Glu Trp Leu Glu Ala Leu Leu Met Asn Gln Thr Val Met
    450             455             460

Ser Lys Asn Leu Phe Trp Phe Arg His Arg Pro Gln Glu Ala Phe Arg
465             470             475             480
```

```
Glu Ala Leu His Met Asp Arg Tyr Leu Leu Leu His Pro Asp Phe Leu
                485             490             495

Arg Tyr Met Lys Asn Arg Phe Leu Arg Ser Lys Thr Leu Asp Gly Ala
            500             505             510

His Trp Arg Ile Tyr Arg Pro Thr Thr Gly Ala Leu Leu Leu Leu Thr
        515             520             525

Ala Leu Gln Leu Cys Asp Gln Val Ser Ala Tyr Gly Phe Ile Thr Glu
    530             535             540

Gly His Glu Arg Phe Ser Asp His Tyr Tyr Asp Thr Ser Trp Lys Arg
545             550             555                 560

Leu Ile Phe Tyr Ile Asn His Asp Phe Lys Leu Glu Arg Glu Val Trp
            565             570             575

Lys Arg Leu His Asp Glu Gly Ile Ile Arg Leu Tyr Gln Arg Pro Gly
        580             585             590

Pro Gly Thr Ala Lys Ala Lys Asn
        595             600


<210>  176
<211>  312
<212>  PRT
<213>  Human

<400>  176

Met Asp Gly Glu Asn His Ser Val Val Ser Glu Phe Leu Phe Leu Gly
1               5               10              15

Leu Thr His Ser Trp Glu Ile Gln Leu Leu Leu Leu Val Phe Ser Ser
            20              25              30

Val Leu Tyr Val Ala Ser Ile Thr Gly Asn Ile Leu Ile Val Phe Ser
        35              40              45

Val Thr Thr Asp Pro His Leu His Ser Pro Met Tyr Phe Leu Leu Ala
    50              55              60

Ser Leu Ser Phe Ile Asp Leu Gly Ala Cys Ser Val Thr Ser Pro Lys
65              70              75              80
```

Met Ile Tyr Asp Leu Phe Arg Lys Arg Lys Val Ile Ser Phe Gly Gly
            85   90   95

Cys Ile Ala Gln Ile Phe Phe Ile His Val Ile Gly Gly Val Glu Met
            100   105   110

Val Leu Leu Ile Ala Met Ala Phe Asp Arg Tyr Val Ala Leu Cys Lys
            115   120   125

Pro Leu His Tyr Leu Thr Ile Met Ser Pro Arg Met Cys Leu Ser Phe
    130   135   140

Leu Ala Val Ala Trp Thr Leu Gly Val Ser His Ser Leu Phe Gln Leu
145   150   155   160

Ala Phe Leu Val Asn Leu Ala Phe Cys Gly Pro Asn Val Leu Asp Ser
                165   170   175

Phe Tyr Cys Asp Leu Pro Arg Leu Leu Arg Leu Ala Cys Thr Asp Thr
            180   185   190

Tyr Arg Leu Gln Phe Met Val Thr Val Asn Ser Gly Phe Ile Cys Val
        195   200   205

Gly Thr Phe Phe Ile Leu Leu Ile Ser Tyr Val Phe Ile Leu Phe Thr
    210   215   220

Val Trp Lys His Ser Ser Gly Gly Ser Ser Lys Ala Leu Ser Thr Leu
225   230   235   240

Ser Ala His Ser Thr Val Val Leu Leu Phe Phe Gly Pro Pro Met Phe
                245   250   255

Val Tyr Thr Arg Pro His Pro Asn Ser Gln Met Asp Lys Phe Leu Ala
            260   265   270

Ile Phe Asp Ala Val Leu Thr Pro Phe Leu Asn Pro Val Val Tyr Thr
    275   280   285

Phe Arg Asn Lys Glu Met Lys Ala Ala Ile Lys Arg Val Cys Lys Gln
    290   295   300

Leu Val Ile Tyr Lys Arg Ile Ser
305   310

<210> 177
<211> 114
<212> PRT
<213> Human

<400> 177

Met Ala Leu Glu His Leu Val Val Trp His Val His Ser Glu Asp Gln
1   5   10   15

Ser Phe Val Val Leu Lys Thr Asp Leu Gly Arg Arg Gly Cys Arg Pro
                20   25   30

Leu Arg Lys Thr Ala Pro Lys Ala Lys Glu Ala Pro Ala Pro Pro Lys
            35   40   45

Ala Glu Ala Lys Val Lys Ala Leu Lys Ala Lys Lys Ala Val Leu Lys
        50   55   60

Gly Val Arg Ser His Thr Gln Lys Arg Arg Ser Ala Cys His Ser Pro
65   70   75   80

Ser Gly Gly Pro Arg His Cys Asp Ser Gly Gly Ser Pro Asp Ile Leu
                85   90   95

Gly Arg Ala Pro Pro Gly Glu Thr Ser Leu Ala Thr Met Leu Ser Ser
                100   105   110

Phe Arg

<210> 178
<211> 430
<212> PRT
<213> Human

<400> 178

Asp Ser Met Thr Phe Glu Asp Ile Ile Val Asp Phe Thr Gln Glu Glu
1   5   10   15

Trp Ala Leu Leu Asp Thr Ser Gln Arg Lys Leu Phe Gln Asp Val Met
                20   25   30

Leu Glu Asn Ile Ser His Leu Val Ser Ile Gly Glu Asp Phe Thr Gln
            35   40   45

```
His Ile Ala Leu Thr Gln Asn Val Ile Thr Tyr Met Arg Thr Lys His
    50              55              60

Phe Val Ser Lys Lys Phe Gly Lys Ile Phe Ser Asp Trp Leu Ser Phe
65              70              75              80

Asn Gln His Lys Glu Ile His Thr Lys Cys Lys Ser Tyr Gly Ser His
            85              90              95

Leu Phe Asp Tyr Ala Phe Ile Gln Asn Ser Ala Leu Arg Pro His Ser
            100             105             110

Val Thr His Thr Arg Glu Ile Thr Leu Glu Cys Arg Val Cys Gly Lys
        115             120             125

Thr Phe Ser Lys Asn Ser Asn Leu Arg Arg His Glu Met Ile His Thr
    130             135             140

Gly Glu Lys Pro His Gly Cys His Leu Cys Gly Lys Ala Phe Thr His
145             150             155             160

Cys Ser Asp Leu Arg Lys His Glu Arg Thr His Thr Gly Glu Lys Pro
            165             170             175

Tyr Gly Cys His Leu Cys Gly Lys Ala Phe Ser Lys Ser Ser Asn Leu
            180             185             190

Arg Arg His Glu Met Ile His Thr Arg Glu Lys Ala Gln Ile Cys His
        195             200             205

Leu Cys Gly Lys Ala Phe Thr His Cys Ser Asp Leu Arg Lys His Glu
    210             215             220

Arg Thr His Leu Gly Asp Lys Pro Tyr Gly Cys Leu Leu Cys Gly Lys
225             230             235             240

Ala Phe Ser Lys Cys Ser Tyr Leu Arg Gln His Glu Arg Thr His Asn
            245             250             255

Gly Glu Lys Pro Tyr Glu Cys His Leu Cys Gly Lys Ala Phe Ser His
            260             265             270

Cys Ser His Leu Arg Gln His Glu Arg Ser His Asn Gly Glu Lys Pro
    275             280             285
```

```
His Gly Cys His Leu Cys Gly Lys Ala Phe Thr Glu Ser Ser Val Leu
    290             295             300

Lys Arg His Glu Arg Ile His Thr Gly Glu Lys Pro Tyr Glu Cys His
305             310             315             320

Val Cys Gly Lys Ala Phe Thr Glu Ser Ser Asp Leu Arg Arg His Glu
                325             330             335

Arg Thr His Thr Gly Glu Lys Pro Tyr Glu Cys His Leu Cys Gly Lys
            340             345             350

Ala Phe Asn His Ser Ser Val Leu Arg Arg His Glu Arg Thr His Thr
        355             360             365

Gly Glu Lys Pro Tyr Glu Cys Asn Ile Cys Gly Lys Ala Phe Asn Arg
    370             375             380

Ser Tyr Asn Phe Arg Leu His Arg Arg Val His Thr Gly Glu Lys Pro
385             390             395             400

Tyr Val Cys Pro Leu Cys Gly Lys Ala Phe Ser Lys Phe Phe Asn Leu
            405             410             415

Arg Gln His Glu Arg Thr His Thr Lys Lys Ala Met Asn Met
            420             425             430
```

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<210>  179
<211>  15
<212>  DNA
<213>  Murine

<400>  179
aactatggtg tacac                                                    15


<210>  180
<211>  5
<212>  PRT
<213>  Murine

<400>  180

Asn Tyr Gly Val His
1               5


<210>  181
<211>  48
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<212>   DNA
<213>   Murine

<400>   181
gtgatatgga gtggtggaaa cacagactat aatacacctt tcacatcc   48

<210>   182
<211>   16
<212>   PRT
<213>   Murine

<400>   182

Val Ile Trp Ser Gly Gly Asn Thr Asp Tyr Asn Thr Pro Phe Thr Ser
1   5   10   15

<210>   183
<211>   33
<212>   DNA
<213>   Murine

<400>   183
gccctcacct actatgatta cgagtttgct tac   33

<210>   184
<211>   11
<212>   PRT
<213>   Murine

<400>   184

Ala Leu Thr Tyr Tyr Asp Tyr Glu Phe Ala Tyr
1   5   10

<210>   185
<211>   33
<212>   DNA
<213>   Murine

<400>   185
agggccagtc agagtattgg cacaaacata cac   33

<210>   186
<211>   11
<212>   PRT
<213>   Murine

<400>   186

Arg Ala Ser Gln Ser Ile Gly Thr Asn Ile His
1   5   10

<210>   187

```
<211>  18
<212>  DNA
<213>  Murine

<400>  187
gcttctgagt ctatctct                                                18


<210>  188
<211>  6
<212>  PRT
<213>  Murine

<400>  188

Ala Ser Glu Ser Ile Ser
1               5


<210>  189
<211>  27
<212>  DNA
<213>  Murine

<400>  189
caacaaaata ataactggcc aaccacg                                      27


<210>  190
<211>  9
<212>  PRT
<213>  Murine

<400>  190

Gln Gln Asn Asn Asn Trp Pro Thr Thr
1               5


<210>  191
<211>  17
<212>  DNA
<213>  Artificial

<220>
<223>  GAPDH oligonucleotide

<400>  191
agccgagcca catcgct                                                 17


<210>  192
<211>  19
<212>  DNA
<213>  Artificial

<220>
<223>  GAPDH oligonucleotide
```

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<400>  192
gtgaccaggc gcccaatac                                                    19


<210>  193
<211>  19
<212>  DNA
<213>  Artificial

<220>
<223>  EGFR oligonucleotide

<400>  193
gcgtctcttg ccggaatgt                                                    19


<210>  194
<211>  21
<212>  DNA
<213>  Artificial

<220>
<223>  EGFR oligonucleotide

<400>  194
agccgaggca gggaatgcgt g                                                 21
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